AEP SWEPCO DOLET HILLS POWER STATION DEMOLITION ESTIMATE



Phase		Notes	Quantity	Cost (Scrap Value Mat		Labor Cost I		~.~·
10 24 00	ARCHITECTURAL	, a magna in the minimum	an gan acad a li	· · . · · . · . · . · . · .		Company of the control of the contro	872-27-5-448 K . 1	- , with a 1 1 1 2 2 2 2	- 4.
	BUILDING	OFFICE SERVICE BUILDING	544,350 00 CF		_	1 633	71 642	44,615	
	BUILDING	FGD STRUCTURES	575 970 00 CF	_	-	1,728	75,803	47,207	
	BUILDING	MISCELLANEOUS SMALL SIZE	79 500 00 CF			239	10,463	6,516	
		BUILDINGS							
	BUILDING METAL SIDING	DSI BLOWER BUILDING	17 762 00 CF 139,964 00 SF	-	•	53 840	2 338 38,739	1,456 26,336	
	MASONRY WALLS		46,703.00 SF			374	16,391	10,207	
	ARCHITECTURAL		40,100 00 01			7,117	314 128	197,834	
10 25 00	CONCRETE CHIMNEY & STACK								
	CONCRETE CHIMNEY, BRICK LINER, DEMOLITION TOP-TO-BOTTOM, PIECE-MEAL NON-EXPLOSIVE METHOD	525 FT TALL X 58 FT BASE	1 00 LS	2,475,000	-				
	CONCRETE CHIMNEY & STACK			2,475 000				-	
10.00.00	AND OFFICE AND OUR PERSONNEL STATE								
10 26 00	MISCELLANEOUS STRUCTURAL ITEM ELEVATOR		100 EA	-		150	6,243	3 366	
	MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		100 LT		•	2,000	82 540	44,880	
	SITE MISCELLANEOUS STRUCTURAL ITEM					2,150	88,783	48,246	
	NBSCELLANEOUS STRUCTURAL TIEM					2,130	90,183	40,240	
10 31 00	VECHANICAL EQUIPMENT								
	MAIN BOILER AND APPURTENANCES, INCL. ID, FD FANS AND MOTORS		11,300 00 TN	-	•	22,883	1,040,467	492,660	
	STEAM TURBINE GENERATOR		1,900 00 TN	-		3,848	160 133	86,338	
	FLUES AND DUCTS INCL BREACHING		950 00 TN	-	-	2 565	116 631	55,224	
	BAGHOUSE		5,700 00 TN			11,543	524,837	248,510	
	ASH HANDLING		350 00 TN		•	945	39,331	21,206	
	CONVEYORS, TRUSSES, BENTS, EQUIPMENT CONVEYORS TRUSSES BENTS, EQUIPMENT, RECLAIM		1,010 00 TN 3 500 00 TN	:		2 727 9,450	113 498 393,309	61,194 212,058	
	EQUIPMENT								
	DUST COLLECTOR EQUIPMENT		250 00 TN 200 00 TN		•	675 405	28,094	15,147	
	FEEDWATER SYSTEM DEAERATING EQUIPMENT TANKS AND SILOS	FUEL OIL TANK, 2 100,000 GAL,	263 00 TN		•	405 710	16,856 29,554	9,088 15,935	
		TANK WAS NEVER USED	200 00 114			710	20 304	10,800	
	MISCELLANEOUS SMALL TANKS		122 00 TN	-	•	329	13710	7,392	
	MISCELLANEOUS FUEL OIL EQUIPMENT		70 00 TN	-	-	189	7,866	4,241	
	ACI SILO AND EQUIPMENT		45 00 TN	-	-	122	5,057	2,726	
	DSI SILO AND EQUIPMENT		85 00 TN			230	9,552	5,150	
	MISCELLANEOUS STORAGE TANKS AND PUMPS WATER TREATMENT DEMINERALIZATION & CHEMICAL		250 00 TN	-	•	675 506	28 094	15,147	
	TREATMENT EQUIPMENT		250 00 TN	-	-	308	21,070	11,360	
	MISCELLANEOUS EQUIPMENT		570 00 TN			1,154	48,040	25,901	
	FGD EQUIPMENT		600 00 TN	•		1 215	50,568	27,265	
	TURBINE ROOM OH CRANE 80/20 TON		1 00 EA	-	-	300	12,486	6,732	
	TURBINE ROOM GANTRY CRANE, 5 TON		100 EA	•	•	28	1,165	628	
	CONDENSER CIRCULATING WATER SYSTEM EQUIPMENT		430 00 TN 450 00 TN	•		871 911	36,241 37,926	19,540 20 448	
	CIRCULATING WATER SYSTEM EQUIPMENT	20 TN GANTRY CRANE	450 00 TN	-	•	911 61	2,528	1 363	
	MECHANICAL EQUIPMENT	20 TH GARTINI CHARL	3000 114	-	-	62,340	2,737 013	1,365,254	
10 34 00	HVAC								
10 04 00	MAIN BUILDING HVAC		100 LT	-	-	1,500	62 430	33 660	
	HVAC					1,500	62,430	33,660	
10 35 00	PIPING								
	PIPING, VALVES AND HANGERS	BOILER AND TURBINE PLANT	2 500 00 TN	-	•	5 063	210,701	113,603	
	CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND TUNNELS		100 LT	-	-	900	37,458	20,196	
	PIPING VALVES AND HANGERS	BOP	222 00 TN			450	18 710	10 088	
	HYDRANTS	= -	1 00 LS	-	-	188	8,948	8,531	_
	PIPING					6,600	275,817	152 418	_

AEP SWEPCO DOLET HILLS POWER STATION DEMOLITION ESTIMATE



Group	Phase	Description	Notes	Quantity	Subcontract Cost	Sorap Value	Material Cost	Man Hours	Labor Cost	Equip Amount	Total Cost
	10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS	MPT AND AUXILIARY TRANSFORMER	369 00 T	M			986	41 036	22 125	63 161
		LIGHT FIXTURE	WET AND ADVICTANT THANSI ON MEN	2,000 00 E			-	800	33,296	17,952	51,248
		MISCELLANEOUS ELECTRICAL EQUIPMENT	GENERATOR BUS INCLUDED	468 00 T			•	1,667	69,401	37 418	106,819
		OUTDOOR LIGHTING		1 00 L	т .		-	750 _	35,790	34,125	69,915
		ELECTRICAL EQUIPMENT						4,203	179,523	111 620	291,143
	10 42 00	RACEWAY CABLE TRAY & CONDUIT									
		CONDUIT		227 00 T			•	1,476	61,410	33,110	94,521
		CABLE TRAY RACEWAY CABLE TRAY, & CONDUIT		227 00 T	Ν -		•	1 362 _ 2,838	56,686 118,097	30 563 63 674	87 250 181,770
		NACENAL CABLE HOLLA CONSON						2,030	110,087	03 074	101,770
	10 43 00	CABLE COPPER WIRE / CABLE		218 00 T	NI .			2,180	90,732	48,919	139,651
		CABLE		210 00 1			•	2,180	90 732	48 919	139 651
		WHOLE PLANT DEMOLITION			2,475,000		***	167,381	7,595,423	3,880,300	13,950,724
18.00 00		SCRAP VALUE									
	18 10 00	CARBON STEEL									
		CARBON STEEL CARBON STEEL	RAILROAD TRACK RAIL	-38 322 00 T		(6,361,45 (117,5)					(6,361,452) (117,528)
		CARBON STEEL	FGD STRUCTURES STEEL	-640 00 T		(106,2			0		(106,240)
		CARBON STEEL	OFFICE SERVICE BUILDING STEEL	-260 00 T	N -	(43 16	60) -				(43,160)
		CARBON STEEL		-6 345 00 T		(1,053,2					(1,053 270)
		CARBON STEEL CARBON STEEL	CONDENSER SHELL	-301 00 T	Ν .	(49.9)				_	(49,966)
		CARBON STEEL				(7,731,61	10)				(7,731,616)
	18 30 00	COPPER									
		SOLID COPPER	ISO PHASE	-2 00 T		(8,5					(8,540)
		#1 INSULATED COPPER WIRE 65% ADMIRALTY BRASS	CONDENSER TUBES	-218 00 T -129 00 T		490,2					(490 282) (439,890)
		COPPER	CONDENSER TOBES	-129 00 1	N .	(439,89)				•-	(938 712)
		SCRAP VALUE				(8,670,32		-			(8,670,328)
21.00.00		CIVIL WORK									
	21 17 00	EARTHWORK EXCAVATION	ALLIA OF BALLA 11 OF 1 ABOUT								
		FOUNDATION EXCAVATION USING 1 CY BACKHOE FOUNDATION EXCAVATION, USING 1 CY BACKHOE	SLUDGE POND (4 65 ACRES) METAL CLEANING POND (1 88	51,489 00 C			•	7 723 3 185	371,879 153,355	132 610 54,686	504,489 208,041
			ACRES)					0.00	100,000		
		EXCAVATE CONCRETE CHIMNEY DEBRIS AND DISPOSE ONSITE		4,238 00 C	Y .		•	636	30,609	10 915	41 524
		EARTHWORK, EXCAVATION						11,544	555,844	198,210	754,054
	21.21 00	MASS FILL CUT & FILL, CLAY, 1500 FT HAUL, 14 CY SCRAPER,	COVER DISTURBED AREAS OF SITE	237,806 00 0	·Y ·		-	15,457	757,258	1,574,085	2,331,343
		DOZER-SPREAD COMPACTION, WATERING TRUCK CUT & FILL CLAY, 1500 FT HAUL, 14 CY SCRAPER,	WITH 2FT OF SOIL FILL METAL CLEANING PONDS	145,448 00 C	·			9 454	463,157	962 749	1 425,907
		DOZER-SPREAD, COMPACTION, WATERING TRUCK	FILE METAL CLEANING FONDS	140,440 00 0			•	_			
		MASS FILL						24,912	1 220,415	2,536,835	3 757,250
	21 47 00	LANDSCAPING									
		HYDRO SEEDING		67 00 A					-		144,452
		LANDSCAPING			144,452						144,452
	21 52 00	WASTE DISPOSAL									
		DISPOSAL AND TRANSPORTATION FEE	BUILDING DEBRIS	1,500 00 0			•			-	27 000
		DISPOSAL FEE, CONTAMINATED MATERIAL	SLUDGE POND (4 65 ACRES), METAL	72,724 00 C	Y 3 199,856		•			-	3,199,856
		TRANSPORTATION, CONTAMINATED MATERIAL	CLEANING POND (1 88 ACRES) SLUDGE POND (4 65 ACRES), METAL	72 724 00 C	Y 727,240		•			-	727,240
		WARTE DISPOSAL	CLEANING POND (1 88 ACRES)			-					
		WASTE DISPOSAL			3,954 096						3 954,096

AEP SWEPCO DOLET HILLS POWER STATION DEMOLITION ESTIMATE

eranavie grandy.

Group Phase Description	Notes Quantity Subcontract Scrap Value - Material Cost	Man Hours	Labor Cost	Equip Amount	Total Cost
CIVIL WORK	4,098,548	36,456	1,776,258	2,735,045	8,609,852



Flint Creek Plant Unit 1 CONCEPTUAL DEMOLITION COST ESTIMATE

Prepared for: Southwestern Electric Power Company (Owner) and American Electric Power

> Project No. A13351.021 August 19, 2020 Revision 0



55 East Monroe Street Chicago, IL 60603-5780 USA

Revision	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
Number				•		-
A	7/31/20	Comments	G. Amen	B. Andric		All
0	8/19/20	Use	G. Amen	B. Andric	A. Redd	All

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Conceptual Demolition Cost Estimate No. 24244G

1.0 INTRODUCTION

The Flint Creek Plant located near Gentry, Arkansas in Benton County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of one generating unit with a generating capacity of 558 megawatts. Unit 1 was placed in operation in 1978.

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for Flint Creek Plant Unit 1 in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Flint Creek Plant Unit 1 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 24244G was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description
10	Demolition Costs
18	Scrap Value Costs
21	Civil Work Costs
22	Concrete Work Costs
90, 91, 92	General Conditions Costs
93	Indirect Costs
94	Contingency Costs
96	Escalation Costs

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2
Cost Estimate Results Summary

Description	Total Cost
Demolition Direct Cost	\$ 13,909,492
Scrap Value	(\$ 7,342,763)
General Conditions Cost	\$ 4,080,200
Indirect Cost	\$ 1,799,000
Contingency Cost	\$ 2,713,200
Total Project Cost	\$ 15,159,129

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete Flint Creek Plant Unit 1 generating facility.

The following are excluded from the scope of the conceptual demolition cost estimate:

- > Cooling Lake Removal
- > Ash Pond Removal
- > Wastewater Pond Removal
- > Clearwater Pond Removal
- ➤ Landfill Leachate Pond Removal
- > Asbestos Removal
- > Switchyard Demolition and Access Roads to the Switchyard

The following items were included in the current cost estimate and were not included in the 2016 cost estimate:

> Landfill Leachate building, equipment and foundations

Revisions to the plant facilities that would affect the current cost estimate were provided by plant personnel through correspondence.

4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the Flint Creek Plant is a conceptual estimate of the cost to dismantle Flint Creek Plant Unit 1. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap value of metals, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A two (2) year demolition schedule is anticipated.

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Little Rock Arkansas as published in "R.S. Means Labor Rates for the Construction Industry", 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation, federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed.

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

Allowances were included in the cost estimate as direct costs as noted for the following:

- > Labor Supervision
- > Construction Management
- > Field Office Expenses
- Safety
- > Temporary Facilities
- Mobilization / Demobilization
- ➤ Legal Expenses / Claims
- ➤ Small Tools & Consumables
- ➤ General Liability Insurance
- Construction Equipment Mobilization / Demobilization
- Freight on Material
- ➤ Contractor's General and Administrative Costs
- Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- Carbon Steel Value @ 166 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton
- ➤ Aluminum @ 930 \$/ton

Note: 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- > Engineering, Procurement and Project Services: None included.
- Construction Management Support: None included.
- ➤ Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.
- > Labor: Included as 10.0% of the total labor cost.
- Indirect: Included as 10.0% of the total indirect cost.

4.8 Assumptions

The following assumptions apply to the cost estimate.

- All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- All coal and fuel oil will be consumed prior to demolition.
- > All electrical equipment and wiring is de-energized prior to start of dismantlement.
- No extraordinary environmental costs for demolition have been included.
- Asbestos and PCBs are not present on site.
- > Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- Ash Ponds and associated Wastewater, Landfill Leachate Pond, Clearwater and Reclaim ponds are not included.
- Switchyards within the plant boundaries are not part of the scope, neither are access roads to these facilities. Fences and gates needed to protect the switchyard will be left in place.
- > All items above grade and to a depth of two (2) feet will be demolished. Any other items buried more than two (2) feet will remain in place. All foundations are removed and buried on site.
- > Underground piping, conduit and cable ducts will be abandoned in place.
- > Underground piping larger than four (4) feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- > The basis for salvage estimating is for scrap value only. No resale of equipment or material is included.
- ➤ Disturbed areas will be buried under two (2) feet of topsoil, mulched and seeded with grass no other landscaping is included.
- All borrow material is assumed to be from onsite sources.
- Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a five (5) mile haul.
- > The entire weight of transformers and generators are valued using only the carbon steel scrap value rate. No additional value is considered for the copper metal content. This is based on information supplied by scrap dealers. Additional cost to the scrap dealer to separate the different metals is offset by the increased value of the copper.
- Concrete / Brick chimney(s) will be demolished using Top-To-Bottom, Piece-Meal, Non-Explosive demolition method.

5.0 REFERENCES

Drawings utilized in the preparation of the demolition cost estimate are identified in Table 5-1.

Table 5-1
Reference Drawings

Document Number	Revision	Title
1-507000	Rev 2	DFGD-NID & ACI Retrofit Site Plan, General Arrangement
1-507001	Rev 2	DFGD-NID & ACI Retrofit Site Development, General Arrangement

EXHIBIT 1 Flint Creek Plant Unit 1 Conceptual Demolition Cost Estimate No. 24244G

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE

Estimator GA

Labor rate table 20ARLIT

Project No. A13351.021
Estimate Date 8/19/20
Reviewed By BA
Approved By BA
Estimate No. 24244G

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



Group	Description	Subcontract Cost. S	Scrap Value		lan Hours	Labor Cost	Equip Amount	Total Cost
10 00 00	WHOLE PLANT DEMOLITION	3,100 000			142,972	6,238,124	3,309,962	12,648 087
18 00 00	SCRAP VALUE		(7,342,763)					(7,342,763)
21 00 00	CIVIL WORK	163 852			5,634	259,186	492,607	915 646
22 00 00	CONCRETE			270,180	1,422	57 605	17,974	345 759
i	TOTAL DIRECT	3,263,852	(7,342,763)	270,180	150,028	6,554,916	3,820,544	6,566,728

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



Estimate Totals

Descrip	tion Amount	Totals	Hours
Labor	6,554,916		150,028
Material	270,180		
Subcontract	3 263,852		
Construction Equipment	3 820,544		
Scrap Value	(7,342,763) 6,666,729		
	0,300,729	8,365,725	
General Conditions			
Additional Labor Costs			
90-1 Labor Supervision	393 300		
90-2 Show-up Time	131 100		
90-3 Cost Due To OT 5-10's 90-4 Cost Due To OT 6-10's			
90-5 Per Diem			
Site Overheads			
91-1 Construction Management	707,900		
91-2 Field Office Expenses	155,700		
91-3 Material&Quality Control 91-4 Site Services			
91-5 Safety	139,900		
91-6 Temporary Facilities	106,400		
91-7 Temporary Utilities			
91-8 Mobilization/Demob	112,100		
91-9 Legal Expenses/Claims	16,600		
Other Construction Indirects 92-1 Small Tools & Consumables	70 800		
92-2 Scaffolding	70 000		
92-3 General Liability Insur	70,800		
92-4 Constr Equip Mob/Demob	38 200		
92-5 Freight on Material	13 500		
92-6 Freight on Scrap 92-7 Sales Tax			
92-8 Contractors G&A	874,500		
92-9 Contractors Profit	1,249,400		
	4 080,200	10,646,929	
Project Indirect Costs 93-1 Engineering Services			
93-2 CM Support			
93-3 Start-Up/Commissioning			
93-4 Start-Up/Spare Parts			
93-5 Excess Liability Insur			
93-6 Sales Tax On Indirects 93-7 Owners Cost	1,799,000		
93-8 EPC Fee	1,799,000		
00 02. 07.00	1 799,000	12 445,929	
		,	
Contingency			
94-1 Contingency on Canst Eq	450,800		
94-3 Contingency on Material 94-4 Contingency on Labor	33 200 988,600		
94-5 Contingency on Subcontr	326 400		
94-6 Contingency on Scrap	734 300		
94-7 Contingency on Indirect	179,900		
	2 713 200	15 159,129	
Escalation			
96-1 Escalation on Const Equip			
96-3 Escalation on Material			
96-4 Escalation on Labor			
96-5 Escalation on Subcontract			
96-6 Escalation on Scrap 96-7 Escalation on Indirects			
oo . assertion on manage		15 159,129	
98 Interest During Constr			
		15,159,129	
Total		45 450 ***	
Total		15,159,129	

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



Group	Phase	Description	Notes:	Quantity			Cost Man Hours	abor Cost E	quip Amount	Total Cost
10.00 00		WHOLE PLANT DEMOLITION								
	10 21 00	CIVIL WORK								
		FENCING REMAINS IN PLACE		LF	-					
		REMOVE RAILROAD TRACK RAIL TIES, SPREAD BALLAST		17 \$50 00 TF	-		3 949	178 878	179 668	358,547
		REMOVE RAILROAD TRACK RAIL, TIES, SPREAD BALLAST	DFGD AND ACI TRACK ADDITIONS	5,650 00 TF	-	•	1,271	57 588	57 842	115,430
		PAVED SURFACES		20,000 00 SY	-	-	2 400	108,720	109,200	217,920
		CIVIL WORK					7,620	345,186	346,710	691,896
	10 22,00	CONCRETE								
		8UILDING/EQUIPMENT FOUNDATION/PAD	TANKS	1 620 00 CY	-	-	1,823	82,869	39 475	122 344
		BUILDING/EQUIPMENT FOUNDATION/PAD	WATER SOFTENER TANKS	200 00 CY	-	-	225	10,231	4,874	15 104
		BUILDING/EQUIPMENT FOUNDATION/PAD	INTAKE STRUCTURE	147 00 CY	-	•	165	7,520	3,582	11,102
		BUILDING/EQUIPMENT FOUNDATION/PAD	MISC EQUIPMENT PADS AND SITE BLD FOUNDATIONS	1,750 00 CY	-	•	1 969	89,519	42 643	132,162
		BUILDING/EQUIPMENT FOUNDATION/PAD	FUEL / MATERIAL HANDLING	1,765 00 CY	_		1 986	90 286	43 009	133,295
		BOILDING/EQUIFMENT FOUNDATIONFAD	EQUIPMENT	1,70300 01			1 300	30 200	40 003	100,200
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE	230 00 CY	-		259	11,765	5,605	17,370
			WALLS, PIERS, CURBS, AND BASIN	******						
		BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT FOUNDATION	9 040 00 CY	-		10,170	462 430	220 282	682,712
			(2FT BELOW GRADE)							
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE	100 00 CY			113	5 1 1 5	2 437	7,552
			WALLS, PIERS, CURBS, AND BASIN							
		BUILDING/EQUIPMENT FOUNDATION/PAD	LIME BLDG, 7758 SF X 33' H	985 00 CY	-	•	1,108	50,386	24,002	74,388
		BUILDING/EQUIPMENT FOUNDATION/PAD	BYPRODUCT EXHAUSTER BLDG,	465 00 CY	-		523	23,786	11,331	35 117
			126'X24 5'X42 H							
		BUILDING/EQUIPMENT FOUNDATION/PAD	AIR COMPRESSOR BLDG,	660 00 CY	-	-	743	33,761	16 083	49,844
			110'X59'X28'H							
		BUILDING/EQUIPMENT FOUNDATION/PAD	DFDG SWITCHGEAR & CONTROL	675 00 CY	•	•	759	34,529	16,448	50,977
			BLDG, 5580 SF X 20'H				701			47.050
		BUILDING/EQUIPMENT FOUNDATION/PAD	NEW WAREHOUSE, 140 X12 X25'H	623 00 CY	-	•		31 869	15,181	60 417
		BUILDING/EQUIPMENT FOUNDATION/PAD	NEW ID FAN FONS	800 00 CY	-	•	900 1,069	40,923 48,596	19,494 23,149	71,745
		BUILDING/EQUIPMENT FOUNDATION/PAD	NEW FLUE GAS DUCT SUPPORT FONS	950 00 CY	•	•	1,069	40,396	23,149	71,745
		BUILDING/EQUIPMENT FOUNDATION/PAD	ACI SILO AND TRUCK UNLOADING	350 00 CY	_		394	17,904	8,529	26 432
		GOLDING EQUIPMENT TOUNDATION AD	FDNS	330 00 01			334	17,004	0,525	20 402
		BUILDING/EQUIPMENT FOUNDATION/PAD	ACI BLOWER BLDG, 25'X35'X20 H	49 00 CY	-		55	2,507	1 194	3,701
		BUILDING/EQUIPMENT FOUNDATION/PAD	LIME SILO CONCRETE	1,185 00 CY	-		1,333	60 617	28,875	89.493
		BUILDING/EQUIPMENT FOUNDATION/PAD	BYPRODUCT HANDLING SYSTEM	490 00 CY	-		551	25,065	11,940	37,005
			SILO FDN							
		BUILDING/EQUIPMENT FOUNDATION/PAD	PIPE & UTILITY RACKS	140 00 CY	-		158	7,162	3,411	10 573
		BUILDING/EQUIPMENT FOUNDATION/PAD	RECLAIM WATER STORAGE BASIN	960 00 CY	-		1,080	49 108	23 393	72,500
		BUILDING/EQUIPMENT FOUNDATION/PAD	MISC FDNS FOR DFDG AND ACI	250 00 CY	-	-	281	12,788	6,092	18 880
			UPGRADE							
		BUILDING/EQUIPMENT FOUNDATION/PAD	LANDFILL LEACHATE TREATMENT	56 00 CY	-	•	63	2,865	1,365	4,229
			BUILDING							
		BUILDING/EQUIPMENT FOUNDATION/PAD	LANDFILL LEACHATE TREATMENT	120 00 CY	•	•	135	6,138	2,924	9,063
			OUTDOOR AREA							
		MAIN POWER BLOCK FOUNDATION	BOILER BUILDING, MATERIAL	3,907 00 CY	-	•	3 298	149 938	71 424	221,362
		MANUFORE DI CONTRATION	HANDLING	£ 600 00 6V			4 700	24.4.000	102 374	317 283
		MAIN POWER BLOCK FOUNDATION	DFDG PROCESS ISLAND BLDG	5,600 00 CY	-	•	4 726	214,909		
		ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL		1,080 00 CY 2,300 00 CY	•	•	647 4,140	29 415 188,246	14,012 89 672	43 428 277,918
		DISCHARGE OUTFALL STRUCTURE		1,165 00 CY	-		874	39 729	18,925	58 655
		CURBS		2,000 00 LF			24	1 091	520	1,611
		WALKWAYS		120 00 CY			63	2 865	1,365	4 229
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT	BOILER ROOM	32 260 00 SF	_		484	21,413	15 175	36,588
		CONCRETE ROOF					·-·	•	,	*****
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT	TURBINE ROOM, MACHINE SHOP,	20,480 00 SF			307	13,594	9 634	23,227
		CONCRETE ROOF	WATER TREATMENT AREAS							
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT	AIR HEATER ROOM MISC	1 377 00 SF	-		21	914	648	1,562
		CONCRETE ROOF								
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT	DFDG PROCESS ISLAND BLDG	10,906 00 SF	-	•	164	7,239	5,130	12,369
		CONCRETE ROOF								
		CONCRETE					41,308	1 877,093	904,196	2,781,289
	10,23 00	STEEL								
		STRUCTURAL, GIRT AND GALLERY STEEL		5,590 00 TN	•		5,679	248,816	91,780	340,596

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



Group Phase	Description	Notes 7	Quantity	Supcontract	[설환경기(변지·F.)	Material Cost	Man Hours	Labor Cost	Equip Amount	Total Cost
10 23 00	STEEL STRUCTURAL, GIRT AND GALLERY STEEL	DFDG PROCESS ISLAND BLDG	286 00 TN				291	12,730	4,696	17,426
	STRUCTURAL, GIRT AND GALLERY STEEL	ENCLOSURES AND FRAMING BYPRODUCT EXHAUSTER BLDG, 126 X24 5'X42 H	172 00 TN	r -			175	7,656	2 824	10 480
	STRUCTURAL GIRT AND GALLERY STEEL STRUCTURAL GIRT AND GALLERY STEEL	PIPE AND UTILITY RACKS STEEL SUPPORTS FOR NEW	164 00 TN 840 00 TN		:		167 853	7,300 37,389	2 693 13 792	9 992 51 181
	LOAD CHIMNEY LINER STEEL PLATE PIECES ALREADY CUT BY DEMOLITION CONTRACTOR INTO CONTAINER	DUCKWORK FOR DFDG MODS	144 00 TN				72	3,154	1 164	4,318
	STEEL.						7,237	317 046	116 947	433,993
10 24 00	ARCHITECTURAL									
	BUILDING	WAREHOUSES AND STORE ROOMS	260 800 00 CF		•		782	33 455	21,375	54,831
	BUILDING	ADMINISTRATION	318 600 00 CF		•		956	40,870	26,112	66,982
	BUILDING	TRACTOR MAINTENANCE	113,400 00 CF				340	14,547	9 294	23,841
	BUILDING	PRECIPITATOR ELECTRICAL BUILDING	86 400 00 CF		•		259	11,083	7,081	18,165
	BUILDING	COAL YARD MAINTENANCE	44,800 00 CF				134	5,747	3 672	9 419
	BUILDING	CAR DUMPER	120,400 00 CF				361	15,445	9 868	25 313
	BUILDING	MISCELLANEOUS SMALL BUILDINGS	20,000 00 CF				60	2 566	1 639	4,205
	BUILDING	LIME BLDG, 7758 SF X 33' H	256 014 00 CF		-		768	32,841	20,983	53,824
	BUILDING	BYPRODUCT EXHAUSTER BLDG, 126'X24 5'X42'H	129 654 00 CF		-		389	16,632	10,626	27,258
	BUILDING	AIR COMPRESSOR BLDG, 110'X59'X28'H	181,720 00 CF				545	23 311	14 894	38,205
	BUILDING	DFDG SWITCHGEAR & CONTROL BLDG 5580 SF X 20'H	111,600 00 CF				335	14 316	9 147	23 463
	BUILDING	ACI BLOWER BLDG, 25'X35 X20'H	17,500 00 CF				53	2 245	1,434	3,679
	BUILDING	NEW WAREHOUSE, 140'X12'X25'H	420,000 00 CF				1,260	53,878	34 423	88 301
	BUILDING	LANDFILL LEACHATE TREATMENT BUILDING	30,080 00 CF		•		90	3,859	2 465	6 324
	BUILDING	CRUSHER HOUSE	96,000 00 CF				480	21,029	7 757	28,786
	METAL SIDING	SHOOHER HOOSE	14,120 00 SF				85	3,749	2,657	6,405
	MASONRY WALLS		2 203 00 SF				18	754	481	1,235
	ARCHITECTURAL		2 200 00 01				6,915	296,326	183 910	480,236
10 25 00	CONCRETE CHIMNEY & STACK CONCRETE CHIMNEY STEEL LINER, DEMOLITION TOP-TO-BOTTOM, PIECE-MEAL, NON-EXPLOSIVE METHOD CONCRETE CHIMNEY & STACK	540 FT TALL	100 LS	3,100,000					_	3 100,000
10 26 00	MISCELLANEOUS STRUCTURAL ITEM									
.02000	ELEVATOR		1 00 EA				150	6,191	3 366	9 557
	MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		1 00 LT				2 000	82 540	44 880	127,420
	SITE MISCELLANEOUS STRUCTURAL ITEM						2,150	88,731	48,246	136,977
10 31 00	MECHANICAL EQUIPMENT									
	MAIN BOILER AND APPURTENANCES, INCL ID, FD FANS AND MOTORS		10,000 00 TN		•		20 250	887,153	435,983	1,323,135
	STEAM TURBINE GENERATOR		1,150 00 TN				2 329	96,108	52 257	148,365
	FLUES AND DUCTS	NEW DUCTWORK FOR DFGD MODS	1,525 00 TN		•		4,118	180,388	88 650	269,037
	FLUES AND DUCTS INCL BREACHING		2 000 00 TN				5,400	236,574	116 262	352,836
	PRECIPITATOR		5,500 00 TN			•	11,138	487,934	239 790	727 724
	ASH HANDLING		100 00 TN				270	11,143	6,059	17,202
	CONVEYORS, TRUSSES, BENTS, EQUIPMENT		70 00 TN		-		189	7,800	4,241	12 041
	CONVEYORS, TRUSSES BENTS, EQUIPMENT, RECLAIM EQUIPMENT		1,391 00 TN				3,756	154 998	84 278	239,276
	FEEDWATER SYSTEM DEAERATING EQUIPMENT		150 00 TN				304	12,536	6816	19,352
	FLY ASH SILO		100 00 TN				270	11 143	6,059	17,202
	MISCELLANEOUS SMALL TANKS		52 00 TN				140	5,794	3,151	8,945
	MISCELLANEOUS STORAGE TANKS AND PUMPS		1,230 00 TN				3,321	137,058	74,523	211,581
	FUEL OIL STORAGE TANK		110 00 TN				297	12,257	6,665	18,922
	TANKS AND SILOS	ACI SILO AND EQUIPMENT	50 00 TN		-		135	5 571	3,029	8 601

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



Group Phase	Description-	Notes	Quantity	Subcontract Cost	Scrap Value	Material Cost : Man Hours	Labor Cost	Equip Amount	Total Cost
	TANKS AND SILOS	LIME SILO EQUIPMENT AND STAIR TOWER	57 00 T	٠ -	ē	154	6 351	3,454	9,805
	WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT		250 00 T	٠ -		506	20,893	11,360	32,253
	MISCELLANEOUS EQUIPMENT		540 00 T			1,094	45 129	24 538	69,667
	TURBINE ROOM OH CRANE, 70/20 TON		1 00 L:			267	11 697	4 315	16,012
	FUEL OIL EQUIPMENT MISCELLANEOUS EQUIPMENT	DFGD UPGRADE	70 00 T		-	142 101	5,850 4,179	3 181 2,272	9 031 6,451
	MISCELLANEOUS EQUIPMENT	DFGD ABSORBER SYSTEM FF NID REACTOR	3 140 00 Ti			6,359	262,415	142 685	405,100
	MISCELLANEOUS EQUIPMENT	8YPRODUCT HANDLING SYSTEM INCL SILO AND PIPING	204 00 Ti	٠ -	ē	413	17,049	9 270	26 319
	MISCELLANEOUS EQUIPMENT	PLANT AIR & INSTRUMENT AIR SYSTEM EXTENSIONS	39 00 T			79	3,259	1 772	5,032
	MISCELLANEOUS EQUIPMENT	SERVICE WATER UPGRADES	22 00 T		-	45	1,839	1,000	2,838
	MISCELLANEOUS EQUIPMENT	LANDFILL LEACHATE TREATMENT	100 00 T			203	8,357	4,544	12 901
	MISCELLANEOUS EQUIPMENT	NEW ROAD TRUCK SCALE FOR DFGD UPGRADE	600 T		•	16	669	364	1,032
	MISCELLANEOUS EQUIPMENT	2 PDC NID-ACI VFD BLDGS	10 00 T			27	1,114	606	1.720
	MISCELLANEOUS EQUIPMENT MISCELLANEOUS EQUIPMENT	CEMS EQUIPMENT BLDG FLY ASH SYSTEM UPGRADES INCL BLENDING BIN	13 00 Ti 26 00 Ti		:	35 70	1,449 2,897	788 1,575	2,236 4,472
	CONDENSER	CLENDING DIN	410 00 T	٠ -		830	34,264	18,631	52 895
	CIRCULATING WATER SYSTEM EQUIPMENT		350 00 T			709	29,250	15,904	45,154
	FRP TANKS, 7 EACH MECHANICAL EQUIPMENT	LANDFILL LEACHATE TREATMENT	1 00 L	-		100 63,064	2,707,244	2,244 1,376,264	6,371 4,083 508
10 34 90	HVAC								
	MAIN BUILDING HVAC		1 00 L		•	1,500	61,905	33 660	95,565
	HVAC					1 500	61,905	33,660	95,565
10 35 00	PIPING	DOLLED AND TUDONE OF ANT	4 000 00 T			2040	100 715	70 700	200 100
	PIPING, VALVES AND HANGERS CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND	BOILER AND TURBINE PLANT	1,600 00 Ti			3 240 803	133 715 33 119	72 706 18 008	206,420 51,127
	TUNNELS		, 00 2			500	00 110	10 000	01,127
	PIPING, VALVES AND HANGERS	BOP	167 00 T			338	13 956	7,589	21 545
	HYDRANTS		1 00 L		•	188	8,494	8,531	17,025
	PIPING					4,568	189 284	106,834	296,118
10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS	MPT AND AUXILIARY TRANSFORMER	308 00 T	, -	_	823	33 964	18 468	52 432
	LIGHT FIXTURE	III. I AND ADAIDANT HUMOI ONINCI	1,000 00 E			400	16 508	8,976	25 484
	OUTDOOR LIGHT POLE / FIXTURE		180 00 E	٠.		270	11,143	6,059	17,202
	ISO PHASE BUS DUCT		31 00 T		•	83	3,418	1,859	5 277
	MISCELLANEOUS ELECTRICAL EQUIPMENT MISCELLANEOUS ELECTRICAL EQUIPMENT	DFGD MODS	397 00 TI 60 00 TI		•	1,061 160	43,779	23 804 3 598	67,583 10,214
	ELECTRICAL EQUIPMENT	DFGD MODS	60 00 II	•		2,797	6,616 115,429	62,763	178,191
						2,757	113,420	52,703	110,191
10 42 90	RACEWAY, CABLE TRAY, & CONDUIT CONDUIT		204.00 T	a.		4.000	E4704	29,755	04.470
	ALUMINUM CONDUIT	DFGD MODS	204 00 TI 25 00 TI		:	1,326 163	54,724 6,706	29,755 3,647	84,479 10,353
	CABLE TRAY		204 00 T			1,224	50 514	27 467	77,981
	ALUMINUM CABLE TRAY	DFGD MODS	25 00 T	٠ -		150	6 191	3,366	9,557
	RACEWAY, CABLE TRAY, & CONDUIT					2,863	118,135	64,235	182,370
10 43 00	CABLE COPPER WIRE		195 00 T	٠ .		1,950	80 477	43 758	124 235
	COPPER WIRE	DFGD MODS	100 00 T			1,000	41,270	22,440	63,710
	CABLE					2 950	121,747	66,198	187,945
	WHOLE PLANT DEMOLITION			3,100,000		142,972	6,238,124	3,309,962	12,648,087

OO SCRAP VALUE
18 10 00 MIXED STEEL 18.00.00

AEP SWEPCO FLINT CREEK POWER STATION DEMOLITION COST ESTIMATE



18 - 10.0 MACE SIEEL SALESO THE CARRON STEEL SALESO THE CARRON	Group	Phase	Description	Notes.	Quantity	Subcontract	Scrap Value	Material Cost	lan Hours	Labor Cost E	quip Amount	Total Cost
RABRON STEEL RABRON PAIL		18 10,00			-34 125 00 TN	_	(5 664 750)					(5 664 750)
18 300 COPPER 2500 PTE 25												
18 30 00 COPPER 18 00 00 18 00 00 00 00 00 00 00 00 00 00 00 00 00				RAILROAD RAIL	-851 00 TN			•			_	
18 50 00 ALUMINUM DFGD MODE 500 0Th (863.455) (863.455			MIXED STEEL				(6,603,978)					(6,603,978)
18 50 00 ALUMINUM DFGD MODE 500 0Th (863.455) (863.455		18 30 00	COPPER									
18 50 COPPER CO		10 00 00			-295 00 TN		(663,455)					(663,455)
ALUMNUM			COPPER			_					-	
ALUMNUM												
ALUMINUM SOP HASE BUS, ENCLOSURE AND 0 TO N (28.80) (75.30		18 50 00										
ALUMNUM						•				•	-	
SCRAP VALUE			ACOMINON		-51 00 111		(20,000)					(20,000)
21.00.00 CIVIL WORK 21 17 00 EARTHWORK, EXCAVATION EXCAVATION EXCAVATE CONGRETE CHIMMEY DEBRIS AND DISPOSE ONSTE ONST ONSTE ONST ONST			ALUMINUM				(75,330)					(75,330)
21 17 00 EACHTHWORK, EXCAVATION EXCAVATION EXCAVATION EXCAVATION EXCAVATION EXCAVATION EVEL BERMS AND DIKES 5,000 0 ° CY			SCRAP VALUE				(7,342,763)					(7,342,763)
21 17 00 EACHTHWORK, EXCAVATION EXCAVATION EXCAVATION EXCAVATION EXCAVATION EXCAVATION EVEL BERMS AND DIKES 5,000 0 ° CY												
EXCAVATE CONCRETE CHIMNEY DEBRIS AND DISPOSE 3 455 0 CY - 518 24 954 8 898 33 852 10 975 10 9	21.00.00		CIVIL WORK									
NASS FILL CUT & FILL CLAY, 1501 FT HAUL, 14 CY SCRAPER COVER DISTURBED AREAS OF SITE 75 621 0 CY CV CV CV CV CV CV CV		21 17 00	EARTHWORK, EXCAVATION									
MASS EXCAVATION LEVEL BERMS AND DIKES 5,000 0 CY - 200 9,158 18.912 28.070 18.070					3 455 00 CY	-	-		518	24 954	8 898	33 852
EARTHWORK EXCAVATION				LEVEL BERME AND DIVER	E 000 00 6V				200	0.450	10.012	20.070
21 21 00 MASS FILL				LEVEL BERMIS AND DINES	5,000 00 C1	•	-					
CUT & FILL, CLAY, 1500 FT HAUL, 14 CY SCRAPER DOZER SPREAD, COMPACTION, WATERING TRUCK WITH 2 FT OF SOIL										,	21,510	01,022
DOZER-SPREAD, COMPACTION, WATERING TRUCK WITH 2 FT OF SOIL 4,915 225,075 464,797 689,871		21 21 00	MASS FILL									
MASS FILL					75 621 00 CY		•		4,915	225,075	464,797	689,871
21 47 00				WITH 2 FT OF SOIL					4047	****		200 0744
HYDRO SEDING			MASSFILL						4,915	225,075	464,/9/	689,671
HYDRO SEDING		21 47 00	LANDSCAPING									
LANDSCAPING 68,992 68,99		21 47 00			32 00 AC	68,992						68,992
DISPOSAL AND TRANSPORTATION FEE BUILDING DEBRIS 1 500 0 CY 27,000 - 27,			LANDSCAPING								_	
DISPOSAL AND TRANSPORTATION FEE BUILDING DEBRIS 1 500 0 CY 27,000 - 27,												
DISPOSAL AND TRANSPORTATION FEE CONTAMINATED SOIL 2 262 00 CY 67,860 94,86		21 52 00										
WASTE DISPOSAL 94,860 94							-				-	
CIVIL WORK 163,852 5,634 259,186 492,607 915,646 22 00 00 CONCRETE 22 13.00 CONCRETE				OSITIAMINATED DOIL	2 202 00 01						· -	
22 00 00 CONCRETE 22 13.00 CONCRETE									5.634	259.186	492.607	
22 13.00 CONCRETE						,			-,		,	- 1-,- 1-
22 13.00 CONCRETE	22 00 00		CONCRETE									
	00 00	22 13.00										
FLOWABLE FILL, 1500 PSI INTAKE CLOSURE 2,374 00 CY 225,530 1,187 48,085 15,004 288,619				INTAKE CLOSURE	2,374 00 CY			225,530	1,187	48,085	15,004	288,619
FLOWABLE FILL 1500 PSI DISCHARGE CLOSURE 470 00 CY - <u>44,650</u> 235 <u>9,520</u> 2,970 57,140				DISCHARGE CLOSURE	470 00 CY				235	9,520		
CONCRETE 270,180 1 422 57,605 17 974 346 759												
CONCRETE 270.180 1.422 57.605 17.974 345.759			CONCRETE					270,180	1,422	57,605	17,974	345,759



J.L. Stall Plant Unit 6 CONCEPTUAL DEMOLITION COST ESTIMATE

Prepared for: Southwestern Electric Power Company (Owner) and American Electric Power

> Project No. A13351.021 August 17, 2020 Revision 0

> > Sargenit & Lundy***

55 East Monroe Street Chicago, IL 60603-5780 USA

Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
A	7/16/20	Comments	G. Amen	B. Andric		Ail
0	8/17/20	Use	G. Amen	B. Andric	A. Redd	All

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EXHIBIT DESCRIPTION

1 Conceptual Demolition Cost Estimate No. 31568D

1.0 INTRODUCTION

The J. L. Stall Plant located near Shreveport, Louisiana in Caddo County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of two (2) gas fired combined cycle generating units and one (1) steam turbine generating unit, with a total generating capacity of 540 megawatts. Facility was placed in operation in 2010.

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for J.L. Stall Plant Unit 6 in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for J.L. Stall Plant Unit 6 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 31568D, was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description
10	Demolition Costs
18	Scrap Value Costs
21	Civil Work Costs
22	Concrete Work Costs
90, 91, 92	General Conditions Costs
93	Indirect Costs
94	Contingency Costs
96	Escalation Costs

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2
Cost Estimate Results Summary

Description	Total Cost
Demolition Direct Cost	\$ 3,962,937
Scrap Value	(\$ 2,858,316)
General Conditions Cost	\$ 1,416,300
Indirect Cost	\$ 537,900
Contingency Cost	\$ 877,600
Total Project Cost	\$ 3,936,421

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete J.L. Stall Plant Unit 6 generating facility.

The following are excluded from the scope of the conceptual demolition cost estimate:

> Switchyard

The following items were included in the current cost estimate and were not included in the 2016 cost estimate:

- > Emergency diesel generator and foundation was added.
- > Spare Generator Startup Transformer and foundation was added.

Revisions to the plant facilities that would affect the current cost estimate were provided by plant personnel through correspondence.

4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the J.L. Stall Plant is a conceptual estimate of the cost to dismantle J.L. Stall Plant Unit 6. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap metal value, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A one (1) year demolition schedule is anticipated.

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Shreveport, Louisiana as published in "R.S. Means Labor Rates for the Construction Industry", 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation, federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed.

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

Allowances were included in the cost estimate as direct costs as noted for the following:

- Labor Supervision
- Construction Management
- > Field Office Expenses
- Safety
- > Temporary Facilities
- > Mobilization / Demobilization
- Legal Expenses / Claims
- Small Tools & Consumables
- > General Liability Insurance
- > Construction Equipment Mobilization / Demobilization
- > Freight on Material
- Contractor's General and Administrative Costs
- ➤ Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- > Carbon Steel Value @, 166 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton
- > Aluminum @ 930 \$/ton
- > Titanium @ 11,000 \$/ton

Note: 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- > Engineering, Procurement and Project Services: None included.
- > Construction Management Support: None included.
- ➤ Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- > Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.
- > Labor: Included as 10.0% of the total labor cost.
- > Indirect: Included as 10.0% of the total indirect cost.

4.8 Assumptions

The following assumptions apply to the cost estimate.

- All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- > All electrical equipment and wiring is de-energized prior to start of dismantlement.
- > No extraordinary environmental costs for demolition have been included.
- > Asbestos and PCB's are not present on site.
- > Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- > There are no switchyards within the plant boundaries.
- > All items above grade and to a depth of two (2) feet will be demolished. Any other items buried more than two (2) feet will remain in place. All foundations are removed, recycled and/or buried on site.
- > Underground piping, conduit and cable ducts will be abandoned in place.
- ➤ Underground piping larger than four (4) feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- > All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- > The basis for salvage estimating is for scrap value only. No resale of equipment or material is included.
- ➤ Disturbed areas will be buried under two (2) feet of topsoil mulched and seeded with grass no other landscaping is included.
- > All borrow material is assumed to be purchased from nearby (10 mile round trip) offsite sources.
- > Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a five (5) mile haul.
- The entire weight of transformers and generators are valued using only the carbon steel scrap value rate. No additional value is considered for the copper metal content. This is based on information supplied by scrap dealers. Additional cost to the scrap dealer to separate the different metals is offset by the increased value of the copper.

5.0 REFERENCES

Drawings utilized in the preparation of the demolition cost estimate are identified in Table 5-1.

Table 5-1
Reference Drawings

Document Number	Revision	Title
S6-0018	Rev. 6	Foundations Location Plan
S6-0025	Rev. 6	CT Foundation & Embedment Plan Units 6A & 6B
S6-0026	Rev. 0	CT Units 6A & 6B Foundation Sections and Details
S6-0033	Rev. 4	Heat Recovery Steam Generator Foundation Plan Units 6A & 6B
S6-0045	Rev. 4	Steam Turbine Generator Foundation Bottom Plan
S6-0046	Rev. 3	Steam Turbine Generator Foundation Top Plan
S6-0068	Rev. 6	Transformer Foundation Plan Unit 6A, 6B, and 6S
S6-0095	Rev. 3	Cooling Tower Basin Foundation Plan Sheet 1
S6-0096	Rev. 8A	Cooling Tower Basin Foundation Plan Sheet 2
S6-0097	Rev. 4	Cooling Tower Pump Basin Section and Details
S6-0110	Rev. 11	Pipe Rack Foundation Plan
S6-0111	Rev. 11	Pipe Rack Foundation Plan
M6-0002	Rev. 0	General Arrangement J L Stall Site
27414-F01	Rev.0	General Arrangement of Steam Surface Condenser
E6-1000	Rev. 3	Electrical One Line Diagram

EXHIBIT 1 J.L. Stall Plant Unit 6 Conceptual Demolition Cost Estimate No. 31568D

AEP SWEPCO J. L. STALL POWER STATION DEMOLITION COST ESTIMATE

Estimator	GA
Labor rate table	20LASHR
Project No.	A13351.021
Estimate Date	8/17/20
Reviewed By	BA
Approved By	BA
Estimate No.	31568D

Estimate No 31568D Project No A13351 021 Estimate Date 8/17/20 Prep /Rev/App GA/BA/8A

AEP SWEPCO J. L. STALL POWER STATION DEMOLITION COST ESTIMATE



Group	Description	Subcontract Cost	Scrap Value	Material Cost	Man Hours	Labor Cost	Equip Amount	Total Cost
10 00 00	WHOLE PLANT DEMOLITION				45,391	2,004,093	1 033,215	3,037 308
18 00 00 21,00 00	SCRAP VALUE CIVIL WORK	44 4770	(2 858,316)	W00 040		#D 00 /	0.4.000	(2,858,316)
22 00 00	CONCRETE	41,473		736,242	1,040	50 894	94,552	923 161
22 00 00	TOTAL DIRECT	41,473	(2,858,316)	1,330 737,572	21 46,452	873 2,055,859	265 1,128,033	2,468 1,104,621

AEP SWEPCO J L STALL POWER STATION DEMOLITION COST ESTIMATE



Estimate Totals

Description	Amount	Totals	Hours
Labor	2,055 859		46,452
Material	737,572		
Subcontract	41,473		
Construction Equipment	1,128 033		
Scrap Value	(2,858,316)		
	1,104,621	1 104,621	
General Conditions			
Additional Labor Costs			
90-1 Labor Supervision	123 400		
90-2 Show-up Time	41,100		
90-3 Cost Due To OT 5-10's			
90-4 Cost Due To OT 6-10's 90-5 Per Diem			
Site Overheads			
91-1 Construction Management	222 000		
91-2 Field Office Expenses	48 800		
91-3 Material&Quality Control			
91-4 Site Services			
91-5 Safety	43,900		
91-6 Temporary Facilities	33 400		
91-7 Temporary Utilities	05.000		
91-8 Mobilization/Demob 91-9 Legal Expenses/Claims	35,200 5,200		
Other Construction Indirects	5,200		
92-1 Small Tools & Consumables	22 200		
92-2 Scaffolding	22 200		
92-3 General Liability Insur	22 200		
92-4 Constr Equip Mob/Demob	11,300		
92-5 Freight on Material	36 900		
92-6 Freight on Scrap			
92-7 Sales Tax	047.400		
92-8 Contractors G&A 92-9 Contractors Profit	317,400 453,300		
92-9 Cominacions From	1,416,300	2 520,921	
	1,410,000	E GED, SE I	
Project Indirect Costs			
93-1 Engineering Services			
93-2 CM Support			
93-3 Start-Up/Commissioning			
93-4 Start-Up/Spare Parts			
93-5 Excess Liability Insur			
93-6 Sales Tax On Indirects			
93-7 Owners Cost 93-8 EPC Fee	537,900		
93-8 EPC Fee	537,900	2.050.024	
	537,500	3 058,821	
Contingency			
94-1 Contingency on Const Eq	133 100		
94-3 Contingency on Material	90,600		
94-4 Contingency on Labor	310 100		
94-5 Contingency on Subcontr	4,200		
94-6 Contingency on Scrap 94-7 Contingency on Indirect	285 800 53,800		
94-7 Collargency on malrect	877 600	3 936,421	
Escalation			
96-1 Escalation on Const Equip			
96-3 Escalation on Material 96-4 Escalation on Labor			
96-5 Escalation on Subcontract			
96-6 Escalation on Screp			
96-7 Escalation on Indirects			
		3 936 421	
98 Interest Dunng Constr			
		3 936,421	
Total		3,936,421	

AEP SWEPCO J L STALL POWER STATION DEMOLITION COST ESTIMATE



Group #Phase		Notes*	Quantity	Subcontract Scr	ap Value Material	Man Hours	bor Cost Eq		
10.00.00	WHOLE PLANT DEMOLITION								
10 21 00	CIVIL WORK								
	FENCING REMAINS IN PLACE		LF	-	-				
	PAVED SURFACES		9,335 00 SY	•		1,120	53,458	50,969	104,425
	CIVIL WORK					1,120	53 456	50,969	104,425
10 22 00	CONCRETE								
	BUILDING/EQUIPMENT FOUNDATION/PAD	HRSG UNIT 6A	782 00 CY			880	42 219	19 055	61,275
	BUILDING/EQUIPMENT FOUNDATION/PAD	HRSG UNIT 6B	782 00 CY	-	-	880	42,219	19,055	61,275
	BUILDING/EQUIPMENT FOUNDATION/PAD	COOLING TOWER FDN	2 225 00 CY	-	-	2 503	120,125	54 218	174,343
	BUILDING/EQUIPMENT FOUNDATION/PAD	AQUEOUS AMMONIA STORAGE	55 00 CY	-	-	62	2 969	1,340	4,310
		TANK							
	BUILDING/EQUIPMENT FOUNDATION/PAD	PIPE RACK UNIT 6A	246 00 CY	•	*	277	13,281	5,994	19,276
	BUILDING/EQUIPMENT FOUNDATION/PAD	PIPE RACK UNIT 6B	619 00 CY	•	•	696	33 419	15 083	48 503
	BUILDING/EQUIPMENT FOUNDATION/PAD BUILDING/EQUIPMENT FOUNDATION/PAD	WATER TREATMENT BUILDING	796 00 CY	•		896	42,975	19,397	62 372
	BUILDING/EQUIPMENT FOUNDATION/PAD	BOP AND MISCELLANEOUS FOUNDATIONS	1 000 00 CY	•	-	1,125	53,989	24,368	78,356
	BUILDING/EQUIPMENT FOUNDATION/PAD	WATER TREATMENT BUILDING	267 00 CY			300	14,415	6 506	20 921
	BOLDING/EQUIPMENT POUNDATION/PAD	ADDITION	267 00 01	•	-	300	14,410	6 300	20 92 1
	BUILDING/EQUIPMENT FOUNDATION/PAD	GSU AND UAT, UNIT 6A	206 00 CY			232	11 122	5 020	16 141
	BUILDING/EQUIPMENT FOUNDATION/PAD	GSU AND UAT, UNIT 6B	189 00 CY		<u> </u>	213	10 204	4 605	14 809
	BUILDING/EQUIPMENT FOUNDATION/PAD	GSU, UNIT 6S	123 00 CY			138	6,641	2,997	9,638
	BUILDING/EQUIPMENT FOUNDATION/PAD	CATERPILLAR DIESEL GENERATOR,	35 00 CY		-	39	1 890	853	2,742
		3516B V12, 2 MW							-,
	BUILDING/EQUIPMENT FOUNDATION/PAD	SPARE GSU, GE PROLEC 250 MVA	206 00 CY		-	232	11,122	5 020	16,141
		138/15-18 KV							
	TURBINE PEDESTAL	CT UNIT 6A	1,507 00 CY	-		2,713	130,178	58,755	188,933
	TURBINE PEDESTAL	CT UNIT 6B	1,507 00 CY		•	2,713	130,178	58,755	188,933
	TURBINE PEDESTAL	STEAM TURBINE 6S	1,443 00 CY			2,597	124,649	56,260	180,909
	CONCRETE					16,495	791.594	357 281	1,148 875
10 23 00	STEEL								
	STRUCTURAL GIRT AND GALLERY STEEL	PIPE RACK UNIT 6A	120 00 TN			122	5,544	1.970	7,514
	STRUCTURAL, GIRT AND GALLERY STEEL	PIPE RACK UNIT 6B	85 00 TN	-		86	3,927	1.396	5,322
	STRUCTURAL, GIRT AND GALLERY STEEL	GALLERIES	20 00 TN	-		41	1,848	657	2,505
	STRUCTURAL GIRT AND GALLERY STEEL	PIPE SUPPORTS MISCELLANEOUS	40 00 TN			81	3,696	1,313	5,009
		BRACING, ETC							
	STEEL					330	15,014	5,336	20,350
									•
10 24 00	ARCHITECTURAL								
	BUILDING	86'X125'X12 HIGH STEEL BUILDING.	129 000 00 CF	_	_	387	16,978	10.573	27,551
	Bollomo	WATER TREATMENT BUILDING	120 000 00 01			307	10,570	10,575	21,001
	BUILDING	3ZX48'X1Z HIGH STEEL BUILDING	18 432 00 CF			56	2 426	1,511	3,937
	501251110	SAMPLE PANEL AND CHEMICAL	10 102 00 01			~	2 420	1,011	0,007
		FEED BUILDING							
	BUILDING	40'X90'X30' HIGH WATER	108 000 00 CF		-	324	14,214	8,852	23 066
		TREATMENT BUILDING EXTENTION							
	ARCHITECTURAL					766	33 617	20,935	54,553
10 26 00	MISCELLANEOUS STRUCTURAL ITEM								
10 20 00	MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		100 LT			1,000	41,620	22,440	64,060
	SITE		100 (1	•	•	1,000	41,020	22,440	64,060
	MISCELLANEOUS STRUCTURAL ITEM					1,000	41,620	22,440	64,060
	INIOCEELAIREOGO STITOG SOISE TEM					1,000	41,020	22,440	04,000
10 31 00	MECHANICAL EQUIPMENT								
10 31 00	COMBUSTION TURBINE	Unit 6A - SIEMENS (W501FD) STG6 -	213 00 TN			746	04.000	40.700	
	COMBUSTION TURBINE	5000F	213 00 IN	•	•	746	31,026	16,729	47,757
	COMBUSTION TURBINE	Unit 68 - SIEMENS (W501FD) STG6 -	213 00 TN			746	31,028	16,729	47,757
	COMBOSTION TORBINE	5000F	213 00 TN	•	•	740	31,020	10,729	47,757
	HEAT RECOVERY STEAM GENERATOR	UNIT 6A, 3 PRESSURE HRSG WITH	2,156 00 TN	_	_	7,546	314,065	169 332	483,397
	TENT TEODY ETT OF TENT OF TENT OF	REHEAT, INTERAL DEAERATOR,	2,100 00 111			7,540	014,000	100 002	400,001
		SCR, STACK							
	HEAT RECOVERY STEAM GENERATOR	UNIT 6B 3 PRESSURE HRSG WITH	2,156 00 TN			7,546	314,065	169,332	483,397
		REHEAT INTERAL DEAERATOR,	-,					,	,
		SCR, STACK							
	STEAM TURBINE GENERATOR	Unit 6S - GE D-11, 244 MW	465 00 TN			942	39,190	21,130	60,321
		CONDENSEING REHEAT TURBINE							•
	CT INLET CHILLER	UNIT 6A	220 00 TN			446	18,542	9,997	28 539
	CT INLET CHILLER	UNIT 6B	220 00 TN	•		446	18,542	9,997	28 539
	COMPRESSOR	2 @ 1335 SCFM	9 00 TN	-	-	18	759	409	1 167
			D.						

AEP SWEPCO J. L. STALL POWER STATION DEMOLITION COST ESTIMATE



Group	Phase	Description	Notes	Quantity	Subcontra Cost	ct	Material Cost		Labor Cost E		Total Cost
	10 31 00	MECHANICAL EQUIPMENT TANKS AND SILOS	DEMIN WATER STORAGE TANK	48 00 TN				130	5 394	2 908	8 302
		TANKS AND SILOS	400 000 GAL, 46' DIA X 34 HIGH RAW/FIRE WATER STORAGE TANK 375 000 GAL, 44' DIA X 34' HIGH	45 00 TN		-	-	122	5 057	2 726	7,783
		TANKS AND SILOS	AQUEOUS AMMONIA STORAGE TANK 15 000 GAL	500 TN		-		14	562	303	865
		TANKS AND SILOS	CONDENSATE COLLECTION TANK, 10 000 GAL	400 TN		-	-	11	450	242	692
		MISCELLANEOUS EQUIPMENT MISCELLANEOUS EQUIPMENT	WATER TREATMENT EQUIPMENT UNIT 6A, CT LUBE OIL SYSTEM, FIN	30 00 TN 4 00 TN			:	61 11	2,528 450	1,363 242	3,892 692
		MISCELLANEOUS EQUIPMENT	FAN COOLER UNIT 6B, CT LUBE OIL SYSTEM, FIN FAN COOLER	4 00 TN		-	•	11	450	242	692
		MISCELLANEOUS EQUIPMENT	PUMPS	25 00 TN			_	68	2 809	1,515	4 324
		MISCELLANEOUS EQUIPMENT	FUEL GAS PREHEATER TUBE AND SHELL HEAT EXCHANGER, 2 EACH	100 TN		-	-	3	112	61	173
		MISCELLANEOUS EQUIPMENT	CATERPILLAR DIESEL GENERATOR, 3516B V12, 2 MW	16 00 TN			•	43	1,798	969	2,767
		CONDENSER	SHELL, UNIT 6S	200 00 TN				405	16,856	9 088	25,944
		CONDENSER	TUBES UNIT 6S	132 00 TN		-	-	267	11 125	5,998	17,123
		COOLING TOWER		1,151,820 00 CF		•		2,304 _	95,878	51,694	147,571
		MECHANICAL EQUIPMENT						21,881	910,685	491,008	1,401,693
	10 35 00	PIPING									
		PIPING VALVES AND HANGERS	UNIT 6A, 14,000 LF	272 00 TN		-	•	551	22,924	12,360	35 284
		PIPING VALVES AND HANGERS	UNIT 6B, 14 000 LF	293 00 TN		•	•	593	24 694	13 314	38 008
		HYDRANTS		1 00 LT		-	•		2,497	1,346	3,844
		PIPING						1 204	50 116	27,021	77,136
	10 41 00	ELECTRICAL EQUIPMENT									
		TRANSFORMERS	GSU UNIT 6A	135 00 TN		-	•	361	15 013	8,095	23,108
		TRANSFORMERS	GSU, UNIT 6B	135 00 TN		-	•	361	15 013	8 095	23,108
		TRANSFORMERS TRANSFORMERS	GSU, UNIT 6S	135 00 TN		-	•	361 27	15,013	8,095	23,108
		TRANSFORMERS	SPARE GSU, GE PROLEC, 250 MVA	10 00 TN 133 00 TN		•	•	355	1 112 14 791	600 7,975	1,712 22 765
			138/15-18 KV			-	•				
		OUTDOOR LIGHT POLE / FIXTURE		100 LT		-	•	150 64	6 243	3,366	9,609
		MISCELLANEOUS ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT		18 00 TN		-	-	1 678	2,669 69.855	1,439 37,663	4,108 107 518
								(0/0	03 030	37,003	107 518
	10 42 00	RACEWAY CABLE TRAY, & CONDUIT									
		CONDUIT	UNIT 6A UNIT 6B	25 90 TN 25 90 TN		•	•	168 168	7,007	3,778	10,785
		CABLE TRAY	UNIT 6A	25 90 TN		•	•	168	7,007 824	3,778 444	10,785 1 268
		CABLE TRAY	UNIT 6B	3 30 TN			-	20	824	444	1,268
		RACEWAY CABLE TRAY, & CONDUIT	01111 00	000 111				376	15 662	8 444	24,106
	10 43 00	CABLE							15 302		24,700
	. 5 45 55	COPPER WIRE / CABLE		54 00 TN			-	540	22,475	12,118	34,592
		CABLE		0.00				540	22 475	12 118	34,592
		WHOLE PLANT DEMOLITION						45,391	2,004,093	1,033,215	3,037,308
18.00.00		SCRAP VALUE									
10.00.00	18 10 00	CARBON STEEL									
	10 10 00	CARBON STEEL		-7,413 00 TN		- (1,230,5	560\				(1 230,558)
		CARBON STEEL		-7,410 00 114		(1 230,5					(1,230,558)
						(1 230,0	1001				(1,230,556)
	18 30 00	COPPER					1.00				
		#1 INSULATED COPPER WIRE 65%		-54 00 TN		- (121,4				_	(121,446)
		COPPER				(121,4	46)				(121,446)
	18 50 00	ALUMINUM		E4 00							****
		ALUMINUM	CONDUIT	-51 80 TN		- (48 1			•	•	(48,174)
		ALUMINUM	TRAY	-6 60 TN			138) -		•	. –	(6,138)
		ALUMINUM				(54 3	12)				(54,312)
	40.00.00	CODED HALVE MICOTIA ANTOLIC									
	18 99 00	SCRAP VALUE, MISCELLANEOUS									
					Page 5						

AEP SWEPCO J. L. STALL POWER STATION DEMOLITION COST ESTIMATE



Group	Phase	Description	Notes		ubcontract Cost	Scrap Value	Material M	an Hours L	abor Cost Equ	ip Amount	otal Cost
	18 99 00		CONDENSER TUBES	-132 00 TN		(1,452,000)					(1 452 000)
		SCRAP VALUE, MISCELLANEOUS			(1,452,000)						(1,452,000)
		SCRAP VALUE				(2,858,316)					(2,858,316)
21.00.00	21 20 00	CIVIL WORK BACKFILL BACKFILL	BACKFILL INTAKE STRUCTURE	32400 CY	_	-		49	2 340	834	3 175
			WITH CONCRETE DEBRIS								
		BACKFILL						49	2 340	834	3,175
	21 21 00	MASS FILL MASS FILL, COMMON EARTH USING DUMP TRUCK, 10 MI ROUND TRIP	COVER DISTURBED AREAS OF SITE AND PONDS WITH 2FT OF SOIL	28,317 00 CY	-		736 242	991	48 554	93 718	878 514
		MASS FILL					736,242	991	48 554	93 718	878 514
	21 47 00	LANDSCAPING HYDRO SEEDING LANDSCAPING		8 80 AC	18 973 18 973	-	-		-		18 973 18,973
	21 52 00	WASTE DISPOSAL DISPOSAL AND TRANSPORTATION FEE WASTE DISPOSAL	BUILDING DEBRIS	1,250 00 CY	22,500 22 500						22 500 22 500
		CIVIL WORK			41,473		736,242	1,040	50,894	94,552	923,161
22.00.00	22.13.00	CONCRETE CONCRETE FLOWABLE FILL, 1500 PSI	INTAKE STRUCTURE CAP, 2° TOP CAP	14 00 CY			1,330	21	873	265	2,468
		CONCRETE	CAP			_	1 330	21	873	265	2,468
		CONCRETE					1,330	21	873	265	2,468



Knox Lee Plant Units 1-5 **CONCEPTUAL DEMOLITION COST ESTIMATE**

Prepared for: Southwestern Electric Power Company(Owner) and American Electric Power

> Project No. A13351.021 August 17, 2020 Revision 0

> > Sargent & Lundy

55 East Monroe Street Chicago, IL 60603-5780 USA

Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
A	7/6/20	Comments	G. Amen	B. Andric		All
0	8/17/20	Use	G. Amen	B. Andric	A. Redd	All

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EXHIBIT DESCRIPTION

1 Demolition Cost Estimate No. 24262F

1.0 INTRODUCTION

The Knox Lee Plant located near Longview, Texas in Gregg County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of five gas/oil fired generating units with a total generating capacity of 501 megawatts. The Units were placed in operation as follows:

Unit 1	1950 (Retired In-place)
Unit 2	1950 (Retired In-place)
Unit 3	1952 (Retired In-place)
Unit 4	1956 (Retired In-place)
Unit 5	1974

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for Knox Lee Plant Units 1-5 in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Knox Lee Plant Units 1-5 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 24262F was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description
10	Demolition Costs
18	Scrap Value Costs
21	Civil Work Costs
22	Concrete Work Costs
90, 91, 92	General Condition Costs
93	Indirect Costs
94	Contingency Costs
96	Escalation Costs

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2
Cost Estimate Results Summary

Description	Total Cost
Demolition Direct Cost	\$ 15,442,642
Scrap Value	(\$ 7,173,345)
General Conditions Cost	\$ 4,852,400
Indirect Cost	\$ 2,029,500
Contingency Cost	\$ 2,949,800
Total Project Cost	\$ 18,100,997

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete Knox Lee Plant Units 1-5 generating facility and plant common services associated with the unit. Common facilities include:

- > Various Storerooms and Buildings
- > Intake and Discharge Structures
- > Fuel Oil Equipment and Tanks
- > Water Treating House and Equipment

The following are excluded from the scope of the conceptual demolition cost estimate:

- > Asbestos Removal
- > Switchyard
- ➤ Demolished Small Tanks (Since the 2012 cost estimate)
- > Demolished Small Buildings (Since the 2012 cost estimate)

The following items were included in the current cost estimate and were not included in the 2016 cost estimate:

None

Revisions to the plant facilities that would affect the current cost estimate were provided by plant personnel through correspondence

4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the Knox Lee Plant is a conceptual estimate of the cost to dismantle Knox Lee Plant Units 1-5. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap value of metals, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A one (1) year demolition schedule is anticipated not including asbestos removal (to be performed prior to start of demolition work). All units will be demolished at the same time.

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Dallas Texas as published in "R.S. Means Labor Rates for the Construction Industry", 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation, federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed.

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

Allowances were included in the cost estimate as direct costs as noted for the following:

- > Labor Supervision
- Construction Management
- > Field Office Expenses
- ➤ Safety
- Temporary Facilities
- Mobilization / Demobilization
- ➤ Legal Expenses / Claims
- Small Tools & Consumables
- > General Liability Insurance
- Construction Equipment Mobilization / Demobilization
- > Freight on Material

- Contractor's General and Administrative Costs
- Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- ➤ Mixed Steel Value @ 166 \$/ton
- Copper Value @ 4,270 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton
- Stainless Steel @ 830 \$/ton
- ➤ Aluminum @ 930 \$/ton

Note: 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- > Engineering, Procurement and Project Services: None included.
- Construction Management Support: None included.
- Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- > Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.

- Labor: Included as 10.0% of the total labor cost.
- > Indirect: Included as 10.0% of the total indirect cost.

4.8 Assumptions

The following assumptions apply to the cost estimate.

- All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- All fuel oil will be consumed prior to demolition.
- All electrical equipment and wiring is de-energized prior to start of dismantlement.
- > No extraordinary environmental costs for demolition have been included.
- > PCB's are not present on site.
- Emergency or Black Start Diesels are not included.
- Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- > Switchyards within the plant boundaries are not part of the scope, neither are access roads to these facilities. Fences and gates needed to protect the switchyard will be left in place.
- The existing Cooling Lake is to be left in place.
- All items above grade and to a depth of two (2) feet will be demolished. Any other items buried more than two (2) feet will remain in place. All foundations are removed and buried on site.
- > Underground piping, conduit and cable ducts will be abandoned in place.
- ➤ Underground piping larger than four (4) feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- The basis for salvage estimating is for scrap value only. No resalc of equipment or material is included.
- ➤ Disturbed areas will be buried under two (2) feet of topsoil mulched and seeded with grass no other landscaping is included.
- > All borrow material is assumed to be purchased from nearby (10 mile round trip) offsite sources.
- Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a five (5) mile haul.
- The entire weight of transformers and generators are valued using only the carbon steel scrap value rate. No additional value is considered for the copper metal content. This is based on information supplied by scrap dealers. Additional cost to the scrap dealer to separate the different metals is offset by the increased value of the copper.

5.0 REFERENCES

Drawings utilized in the preparation of the demolition cost estimate are identified in Table 5-1.

Table 5-1
Reference Drawings

Document Number	Revision	Title
M-290		Mezzanıne & Main Floor Loadıng Diagram, Unit 5
M-291		Grade Floor Loading Diagram, Unit 5
M-300	***************************************	Site Plan, Knox Lee Power Plant
M-301	Rev A	Property Plat, Knox Lee Power Plant
M-302		Development Plan, Knox Lee Power Plant
		General Arrangement, Main Floor Plan - Unit 1,2,3,4
M-303		& 5
		General Arrangement, Unit 5 Turb Rm. Mezz. Flr &
M-304		BLR Grade Flr.
		General Arrangement, Basement Floor - Unit
		1,2,3,4&5
M-305		
M-306		General Arrangement, Misc. Plans Unit 1,2,3,4,&5
M-307		General Arrangement, Cross Section Unit 5
M-308		General Arrangement, Cross Section Unit 5
M-309		General Arrangement, Cross Section Unit 5
M-310		General Arrangement, Longitudinal Section Unit 5
		General Arrangement, Longitudinal Section Unit
M-311		1,2,3,4&5
M-366		Turbine and Generator Dismantling Layout Unit 5

EXHIBIT 1 Knox Lee Plant Units 1-5 Conceptual Demolition Cost Estimate No. 24262F

AEP SWEPCO KNOX LEE POWER STATION KNOX LEE POWER STATION DEMOLITION COST ESTIMATE

Estimator GA

Labor rate table 20TXDAL

Project No. A13351 021
Estimate Date 8/17/20
Reviewed By BA
Approved By BA
Estimate No. 24262F

Estimate No 24262F Project No A13351 021 Estimate Date 8/17/20 Prep/Rev/App GA/BA/BA



Area Description	-Subcontract Cost	crap Value	aterial Cost	an Hours	Labor Cost	ulp Amount	Total Cost
A UNIT 1		(866,122)		12 131	552,296	263 089	(50 737)
B UNIT 2		(859 684)		11 348	516 290	246 881	(87 513)
C UNIT 3		(872,264)		11 803	538 368	256 217	(77,679)
D UNIT 4		(1,298,187)		15 8 13	718 364	338,322	(249,501)
E UNIT 5		(3,013,350)	31 825	50 853	2,339,133	1 098 041	455,649
F COMMON FACILITIES	433,638	(272 738)	6,020 467	20,625	1,003 883	1 093,928	8,279,079
TOTAL DIRECT	433.538	(7 173 346)	6 052 292	122 172	5.660.333	3.296.479	8.269.297

Estimate No 24262F Project No A13351 021 Estimate Date 8/17/20 Prep/Rev/App GA/BA/BA

AEP SWEPCO KNOX LEE POWER STATION KNOX LEE POWER STATION DEMOLITION COST ESTIMATE



Estimate Totals

Description	Amount	Totals	Hours
Labor	5 660,333		122,172
Material	6 052 292		,
Subcontract	433,538		
Construction Equipment	3 296,479		
Scrap Value	(7.173,345)	8 269 297	
	€ 259,297	8 709 731	
General Conditions			
Additional Labor Costs			
90-1 Labor Supervision	339,600		
90 2 Show up Time	113 200		
90-3 Cost Due To OT 5-10 s 90-4 Cost Due To OT 6-10 s			
90-5 Per Orem			
Site Overheads			
91-1 Construction Management	611 300		
91-2 Field Office Expenses	134 500		
91-3 Material&Quality Control 91-4 Site Services			
91-4 Sile Services 91-5 Salety	120 800		
91-6 Temporary Facilities	91 900		
91-7 Temporary Utilities			
91-8 Mobilization/Demob	96 800		
91-9 Legal Expenses/Claims Other Construction Indirects	14 300		
92-1 Small Tools & Consumables	61 100		
92-2 Scaffolding	01100		
92-3 General Liability Insur	61 100		
92-4 Constr Equip Mob/Demob	33 000		
92-5 Freight on Material 92-6 Freight on Scrap	302 600		
92-7 Sales Tax			
92-8 Contractors G&A	1 182 700		
92-9 Contractors Profit	1,689,500		
	4,862 400	13,121 697	
Project Indirect Costs			
93-1 Engineering Services			
93-2 CM Support			
93-3 Start-Up/Commissioning			
93-4 Start-Up/Spare Parts			
93-5 Excess Liability Insur 93-6 Sales Tax On Indirects			
93-7 Owners Cost	2 029 500		
93-8 EPC Fee	2 020 000		
	2 029 500	16 151 197	
Contingency			
94-1 Contingency on Const Eq 94-3 Contingency on Material	389 000 743 500		
94-4 Contingency on Labor	853 600		
94-5 Contingency on Subcontr	43 400		
94-6 Continuency on Scrap	717 300		
94-7 Contingency on Indirect	203,000	40 400 007	
	2 949,800	18,100 997	
Escalation			
96-1 Escalation on Const Equip			
96-3 Escalation on Material			
96-4 Escalation on Labor			
96-5 Escalation on Subcontract 96-6 Escalation on Scrap			
96-7 Escalation on Indirects			
		18 100,997	
98 Interest During Constr			
		18 100 997	
Total		18,100,997	
1000		10,100,557	

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	Property Marian		ACCUMENTAL PROPERTY.		COST						
		UNIT 1						ost man Hours			
10 00 00		WHOLE PLANT DEMOLITION									
	10,22.00	CONCRETE BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT	150 00	67			169	8,348	3 655	
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE WALLS PIERS, CURBS, AND BASIN	165 00		-	-	186	9,183	4 021	
		MAIN POWER BLOCK FOUNDATION	TACCO FICKO, DONDO, AND DADA	803 00	CY	-	-	678	33,527	14 680	
		ELEVATED CONCRETE FLOOR / ROOF		525 00		-		314	15 557	6 812	
		TURBINE PEDESTAL PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	BOILER ROOM	645 00 3 240 00		:	:	1,161 49	57,435 2 309	25 147 1,524	
		CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM, CONTROL HOUSE, ELECTRICAL BAY WATER TREATMENT	5 600 00	SF	-	-	84	3 990	2,634	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	AREA AIR HEATER ROOM, MISCELLANEOUS	5,218 00	SF		-	78	3,718	2,455	
		CONCRETE						2,718	134,066	60,927	
	10 23 00	STEEL									
		STRUCTURAL GIRT AND GALLERY STEEL		966 00	TN	-	-	981	45,922	15 860	
		STEEL						981	45 922	15 860	
	10 24.00	ARCHITECTURAL MASONRY WALLS		19 983 00	SF			160	7,210	4 367	
		ARCHITECTURAL		13 200 00				160	7,210	4 367	
	10.25 00	CONCRETE CHIMNEY & STACK									
		STEEL STACK CONCRETE CHIMNEY & STACK		50 00	TN	-	-	101 101	4,323	2,272	
								101	4 323	2 212	
10 26 60	MISCELLANEOUS STRUCTURAL ITEM ELEVATOR		1 00	= 4			150	6,405	3,366		
	MISCELLANEOUS STRUCTURAL ITEM		100	-n	-	•	150	6,405	3,366		
	10,31 00	MECHANICAL EQUIPMENT									
		MAIN BOILER AND APPURTENANCES INCL ID, FD FANS AND MOTORS		1 215 00		•	-	2 460	115,121	52 972	
		STEAM TURBINE GENERATOR FLUES AND DUCTS INCL BREACHING		350 00 100 00		-	•	709 270	30 264 12,633	15 904 5 813	
		FEEDWATER SYSTEM DEAERATING EQUIPMENT		70.00		-		142	6,053	3 181	
		MISCELLANEOUS SMALL TANKS		30 00		-	-	81	3 459	1 818	
		WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT		100 00		•	•	203	8,647	4 544	
		TURBINE ROOM OH CRANE, 50/10 TON		100		-	-	188	8,773	3 030	
		MISCELLANEOUS EQUIPMENT CONDENSER		115 00 160 00			•	233 324	9 944 13 835	5 226 7 271	
		CIRCULATING WATER SYSTEM EQUIPMENT		100 00		:		203	8,647	4 544	
		CIRCULATING WATER SYSTEM EQUIPMENT	20 TON BRIDGE CRANE	30 00				61	2 594	1 363	
		MECHANICAL EQUIPMENT						4,872	219,969	105 666	
	10 34 00	HVAC MAIN BUILDING HVAC		100	LT			225	9,608	5 049	
		HVAC						225	9,608	5,049	
	10 35 00	PIPING PIPING VALVES AND HANGERS	BOILER AND TURBINE PLANT	200 00	TN			405	17,294	9 088	
		CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND TUNNELS	Section Control Person	100			•	480	20,496	10 771	
		PIPING VALVES AND HANGERS PIPING	ВОР	90 00	TN	-	-	182 1 067	7 782 45,572	4,090 23 949	
	40.44.65							1 067	40,012	23 343	
	10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS		47 00	TN			126	5 362	2 818	
		LIGHT FIXTURE		300 00				120	5,124	2 693	
		MISCELLANEOUS ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT		71 00	TN	•		190 435	8 101 18,587	4,257 9 768	
								435	10,087	3 / 06	
	10 42 00	RACEWAY, CABLE TRAY, & CONDUIT									
		CONDUIT		64 00				416	17 763	9 335	

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		RACEWAY CABLE TRAY, & CONDUIT				p Value Mate		800	34,160	17,952	52 11
	10.43 00	CABLE									
		COPPER WIRE / CABLE		62 00 TN		-		620	26 474	13,913	40 3
		WHOLE PLANT DEMOLITION						620	26 474	13 913 263,089	40,3 815 3
								12,131	552,298	263,089	8153
18 00 00	18 10 00	SCRAP VALUE CARBON STEEL									
		CARBON STEEL		-3 822 00 TN	٠	(634,452)	•			_	(634,4
		CARBON STEEL				(634 452)					(634,4
	18.30 00	COPPER SOLID COPPER	CONDENSER TUBES	-21 60 TN		(92,232)					(92 2
		#1 INSULATED COPPER WIRE 65%	SOME THE TOTAL TOT	-62 00 TN	·	(139,438)	-				(139 4
		COPPER				(231,670)					(231 6
		SCRAP VALUE				(866,122)					(866 1
		A UNIT 1				(866,122)		12,131	552,296	263,089	(50,7
		UNIT 2									
10 00 00		WHOLE PLANT DEMOLITION									
	10 22 00	CONCRETE BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT	150 00 CY	_			169	8 348	3 555	12
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN	165 00 CY	-	•		186	9 183	4 021	13
		MAIN POWER BLOCK FOUNDATION	WALLS, PIERS CORDS AND BASIN	640 00 CY		-		540	26 722	11,700	38
		ELEVATED CONCRETE FLOOR / ROOF		415 00 CY		-		249	12 298	5,384	17
		TURBINE PEDESTAL PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	BOILER ROOM	645 00 CY 3,240 00 SF	-			1,161 49	57,435 2 309	25,147 1,524	82 3
		CONCRETE ROOF			•	•					
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM CONTROL HOUSE ELECTRICAL BAY WATER TREATMENT AREA	5 600 00 SF	•	-		84	3 990	2 634	6
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	AIR HEATER ROOM MISCELLANEOUS	4 943 00 SF	•			74	3 522	2 325	5
		CONCRETE						2 511	123 805	56,391	180,
	10 23 00	STEEL						_			
		STRUCTURAL, GIRT AND GALLERY STEEL STEEL		903 00 TN	•			917 917	42 927	14 826 14,826	57
								• • •	72,027	17,020	0
	10 24 00	ARCHITECTURAL MASONRY WALLS		10 920 00 SF		-		87	3 940	2 387	6
		ARCHITECTURAL						87	3 940	2,387	6,
	10 25 00	CONCRETE CHIMNEY & STACK									
		STEEL STACK CONCRETE CHIMNEY & STACK		50 00 TN	•	•		101 —	4 323	2,272	6
		CONCRETE CHIMNET & STACK						101	4,323	2,272	6
	10 31 00	MECHANICAL EQUIPMENT MAIN BOILER AND APPURTENANCES INCL. ID. FO FANS		1 215 00 TN		_		2 460	115 121	52,972	168
		AND MOTORS									
		STEAM TURBINE GENERATOR		350 00 TN				709	30 264	15,904	46
		FLUES AND DUCTS INCL BREACHING FEEDWATER SYSTEM DEAERATING EQUIPMENT		100 00 TN 70 00 TN				270 142	12,633 6,053	5,813 3,181	18 9
		MISCELLANEOUS SMALL TANKS		30 00 TN	=	·-		81	3,459	1 818	5
		WATER TREATMENT DEMINERALIZATION & CHEMICAL		100 00 TN		-		203	8,647	4,544	13
		TREATMENT EQUIPMENT TURBINE ROOM OH CRANE 50/10 TON	INCL IN UNIT 1 TURBINE ROOM OVERHEAD	0 00 LS		-	0		0	0	
		MISCELLANEOUS EQUIPMENT	CRANE	115 00 TN				233	9 944	5 226	15
		CONDENSER		160 00 TN		-		324	13,835	7 271	21
		CIRCULATING WATER SYSTEM EQUIPMENT		100 00 TN				203	8 647	4 544	13
		CIRCULATING WATER SYSTEM EQUIPMENT MECHANICAL EQUIPMENT	INCL IN UNIT 1 20T BRIDGE CRANE	000 TN	•	-	0	4 624	208,601	101,272	309
	10 34 00	HVAC									
	.0 0 04	MAIN BUILDING HVAC		100 LT				225	9 608	6 049	14
		HVAC						225	9,608	5,049	14,

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Group	Phase	Description	Notes	Quantity		Value Material		Labor Cost Ec	uip Amount	Tota
Harrist (10 35 00	PIPING		AND ROLL SELVE	n in which will be the control of th	التداير الأساء الأراع الموادا	was the same and the same as a		and the second of	. Walle also
	10 33 00	P:PING VALVES AND HANGERS CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND	BOILER AND TURBINE PLANT	200 00 TN 1 00 LT	-		405 480	17 294 20,496	9 088 10,771	
		TUNNELS PIPING VALVES AND HANGERS PIPING	ВОР	90 00 TN	-	-	182 — 1,067		4,090 23,949	
	10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS		47 00 TN	_		126	5,362	2,818	
		LIGHT FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT		200 00 EA 71 00 TN	÷		80 190 395	3,416 8 101 16 879	1,795 4,257 8 870	
	10 42 00	RACEWAY CABLE TRAY, & CONDUIT		C400 TH			40	17,763	0.225	
		CONDUIT CABLE TRAY RACEWAY, CABLE TRAY & CONDUIT		64 00 TN 64 00 TN	:	:	416 384 800	16 397 34,160	9,335 8,617 17 952	
	10 43 00	CABLE								
		COPPER WIRE / CABLE		62 00 TN	-	٠	620 620	26,474 26,474	13 913 13 913	_
		WHOLE PLANT DEMOLITION			_		11 348	5 16 290	246 981	
18 80 00	18 10 00	SCRAP VALUE CARBON STEEL								
		CARBON STEEL CARBON STEEL		-3,729 00 TN		(619 014) (619,014)	-		_	_
	18.30 00	COPPER SOUD COPPER	CONDENSER TUBES	2160 TN		(92 232)				
		#1 INSULATED COPPER WIRE 65% COPPER	CONDENSER TOBES	-62 00 TN		(139 438) (231 670)	:		_	
		SCRAP VALUE				(850,684)				
		B UNIT 2 UNIT 3			(0	350,684)	11,348	516,290	246,881	
10 00 00	10 22 00	WHOLE PLANT DEVOLITION CONCRETE								
	10 22 00	BUILDING/EQUIPMENT FOUNDATION/PAD BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT TRANSFORMER FOUNDATION FIRE WALLS PIERS CURBS AND BASIN	150 00 CY 165 00 CY			169 186	8 348 9 183	3 655 4 021	
		MAIN POWER BLOCK FOUNDATION ELEVATED CONCRETE FLOOR / ROOF		949 00 CY 474 00 CY		•	801 284	39,623 14 046	17,349 6 150	
		TURBINE PEDESTAL PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	BOILER ROOM	645 00 CY 3 240 00 SF	:		1,161 49	57 435 2 309	25,147 1,524	
		CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM CONTROL HOUSE, ELECTRICAL BAY WATER TREATMENT AREA	6 400 00 SF	-		96	4,560	3,011	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	AIR HEATER ROOM, MISCELLANEOUS	4,943 00 SF	-	•	74	3 522	2,325	
		CONCRETE					2,819	139,025	63,181	
	10 23 00	STEEL STRUCTURAL GIRT AND GALLERY STEEL		1,033 00 TN			1 050	49 107 49 107	16 960 16,960	
	10 24 00	STEEL ARCHITECTURAL					: 050	45 101	10,300	
		MASONRY WALLS ARCHITECTURAL		12 800 00 SF	-	•	102 102	4 618 4,618	2 798 2,798	_
	10 25 00	CONCRETE CHIMNEY & STACK STEEL STACK		50 00 TN		-	101	4,323	2,272	
	10,31 00	CONCRETE CHIMNEY & STACK MECHANICAL EQUIPMENT					101	4 323	2 272	
	10.31 00	MECHANICAL EQUIPMENT MAIN BOILER AND APPURTENANCES, INCL ID FD FANS AND MOTORS		1 215 00 TN	-		2 460	115 121	52,972	
		STEAM TURBINE GENERATOR FLUES AND DUCTS INCL BREACHING		350 00 TN 100 00 TN	-	:	709 270	30 264 12 633	15 904 5 813	

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		Description	Notes*	Quantity	Cost	Scrap Value		A. A. A. A. C. A. A.	九 55 海北河流	sie Fording	Total Cost
	10 31 00	MECHANICAL EQUIPMENT	V - MARKET - 1 - 10 - 10 - 10 - 10 - 10 - 10 - 10								
		FEEDWATER SYSTEM DEAERATING EQUIPMENT MISCELLANEOUS SMALL TANKS		70 00 Th				142 81	6 053 3 459	3,181 1 818	9 234 5 276
		WATER TREATMENT DEMINERALIZATION & CHEMICAL		100 00 TN				203	8 647	4,544	13,191
		TREATMENT EQUIPMENT	HIGH HAND A THOMAS BACK OF THE A	0.00 1.0							
		TURBINE ROOM OH CRANE, 50/10 TON	INCL IN UNIT 1 TURBINE ROOM OVERHEAD CRANE	0 00 LS	•		•				
		MISCELLANEOUS EQUIPMENT		115 00 TM			•	233	9 944	5,226	15 169
		CONDENSER CIRCULATING WATER SYSTEM EQUIPMENT		160 00 Th			-	324 203	13 835 8 647	7 271 4,544	21,105 13 191
		CIRCULATING WATER SYSTEM EQUIPMENT	INCL IN UNIT 1 20T BRIDGE CRANE	0 00 Th			•				
		MECHANICAL EQUIPMENT						4 624	208 601	101 272	309,874
	10 34 00	HVAC MAIN BUILDING HVAC		100 LT				225	9 608	5 049	14 657
		HVAC		100 21			•	225 —	9,608	5,049	14,657
	10 35 00	PIPING			_				42.004		26,382
		PIPING, VALVES AND HANGERS CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND	BOILER AND TURBINE PLANT	200 00 Th			:	405 480	17 294 20 496	9 088 10,771	31,267
		TUNNELS									
		PIPING, VALVES AND HANGERS	BOP	90 00 Th	٠ -		-	182	7 782	23,949	11 872 69,521
		PIPING						1 067	45 572	23,949	69,541
	10 41,00	ELECTRICAL EQUIPMENT									
		TRANSFORMERS		47 00 Tr			•	126	5 362	2,818	8,181
		LIGHT FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT		200 00 EA 71 00 Th				80 190	3 416 8 101	1,795 4 267	5,211 12,358
		ELECTRICAL EQUIPMENT		*****	•			395	16,879	8,870	25 750
	10 42,00	RACEWAY, CABLE TRAY, & CONDUST									
		CONDUIT		64 00 Th			-	416	17,763	9 335	27 098
		CABLE TRAY RACEWAY, CABLE TRAY & CONDUIT		64 00 Th	٠.		-	384 <u>—</u> 800	16 397 34 160	8 617 17,962	25 014 52,112
								800	34 100	17,502	02,112
	10 43 00	CABLE COPPER WIRE / CABLE		62 00 Th	٠ -			620	26 474	13 913	40 387
		CABLE						620	26,474	13,913	40,387
		WHOLE PLANT DEMOLITION	•					11,803	538,368	256,217	794 525
18 00 00		SCRAP VALUE									
	18,10,00	CARBON STEEL CARBON STEEL		3 859 00 17	٠.	(640,5	94)	_			(640,594)
		CARBON STEEL				(640,5				_	(640,594)
	18 30.00	COPPER									
	18 30,00	SOLID COPPER	CONDENSER TUBES	21 60 Tř	N	(92 2	32)	_			(92 232)
		#1 INSULATED COPPER WIRE 65%		-62 00 Th	٠.	(139 4	38)	-			(139 438)
		COPPER				(231,6					(231,670)
		C UNIT 3	 	······································		(872.26 (872,26		11,803	538,368	256,217	(77,679)
		C UNIT 3				(0/2,20	14)	11,003	330,300	250,217	(11,015)
		UNIT 4									
10 00 00	10 22 00	WHOLE PLANT DEMOLITION CONCRETE									
	10 22 00	BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT	200 00 C	γ .			225	11 131	4,874	16,004
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE	160 00 C	γ .	•		180	8 905	3,899	12 803
		MAIN POWER BLOCK FOUNDATION	WALLS PIERS CURBS AND BASIN	874 00 C	v .	_		738	36,492	15 978	52 469
		ELEVATED CONCRETE FLOOR / ROOF		534 00 C	Υ .			320	15 824	6,928	22 752
		TURBINE PEDESTAL		850 00 C		=	-	1 530	75 689	33,140	108 829
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	BOILER ROOM	3,417 00 Si		•	•	51	2 435	1 607	4 042
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT	7,200 00 SI	F .			108	5,130	3 387	8 5 1 7
		CONCRETE ROOF									
			AREA		_						
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF CONCRETE	AREA AIR HEATER ROOM MISCELLANEOUS	3 903 00 S	F.		•	59 3 210	2,781	1,836 71,648	230,034

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			Notes		Subcontract			ANTONIO LA TRANSPORTE		THE STATE OF STATE OF	
Area Group	Phase	Description		Quantity	eliteration of the second	Scrap V	alue Material Cost	Man Hours La	ibor Cost 🧢 Eq	ulp Amount	
	10 23 00	STEEL	4の位列用が数に関係的でき、 per 5.20 17 のうといってい		YMANAPP CAR YES	AND CREEKING	MERCHANNA MARKA M	ATHORES AND POSTATION	g parit = Physics 5 5294 (EUMPECTS BATTE	
	10 10 00	STRUCTURAL, GIRT AND GALLERY STEEL		1 330 00 T	N			1 351	63 226	21,837	85 063
		STEEL						1,351	63,226	21,837	85,063
	10.24 00	ARCHITECTURAL MASONRY WALLS		14,040 00 S	c			112	5 066	3,069	8 134
		ARCHITECTURAL		14,040 00 3	r	•	•	112	5,066	3 069	8 134
									-1		
	10 25 00	CONCRETE CHIMNEY & STACK									
		STEEL STACK		80 00 T	N			162	6 917	3,635	10 553
		CONCRETE CHIMNEY & STACK						162	6,917	3,635	10,553
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM									
	10 20 00	ELEVATOR		100 E	A			150	6,405	3,366	9 771
		MISCELLANEOUS STRUCTURAL ITEM						160	6,405	3,366	9,771
	10 31 00	MECHANICAL EQUIPMENT MAIN BOILER AND APPURTENANCES INCL ID FD FANS		1,825 00 T	Li .			3 696	172 918	79,567	252 485
		AND MOTORS		1,025 00 1	N		•	3 696	172 918	19,561	252 485
		STEAM TURBINE GENERATOR		475 00 T	N			962	41 072	21 584	62 657
		FLUES AND DUCTS INCL BREACHING		135 00 T				365	17 055	7 848	24 903
		FEEDWATER SYSTEM DEAERATING EQUIPMENT MISCELLANEOUS SMALL TANKS		100 00 T 20 00 T		-	-	203 54	8 647 2,306	4,544 1,212	13 191 3 5 18
		WATER TREATMENT DEMINERALIZATION & CHEMICAL		100 00 T				203	8 647	4 544	13,191
		TREATMENT EQUIPMENT									
		TURBINE ROOM OH CRANE 50/10 TON	INCL IN UNIT 1 TURBINE ROOM OVERHEAD CRANE	0 00 L	s		-				
		MISCELLANEOUS EQUIPMENT	0.0012	145 00 T	N			294	12,538	6 589	19 127
		CONDENSER		215 00 T			•	435	18,591	9,770	28 360
		CIRCULATING WATER SYSTEM EQUIPMENT CIRCULATING WATER SYSTEM EQUIPMENT	INCL IN UNIT 1 20T BRIDGE CRANE	150 00 T 0 00 T				304	12,970	6 816	19 786
		MECHANICAL EQUIPMENT	mod m orat / cot brabbe of the	000 1	•	-	-	6 514	294,743	142 474	437,217
	10 34 00	HVAC									
		MAIN BUILDING HVAC HVAC		100 L	т			225 225	9,608	5,049	14 657
		HVAC						225	8,608	5,049	74,657
	10 35 00	PIPING									
		PIPING, VALVES AND HANGERS	BOILER AND TURBINE PLANT	300 00 T			-	608	25 940	13 632	39 573
		CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND TUNNELS		100 L	т		•	563	24,040	12 634	36 674
		PIPING, VALVES AND HANGERS	BOP	130 00 T	N	-		263	11,241	5,907	17 148
		PIPING						1 434	61 221	32,173	93,394
	10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS									
		LIGHT FIXTURE		75 00 T 200 00 E				200 80	8,557 3,416	4 497 1,795	13 054 5 211
		MISCELLANEOUS ELECTRICAL EQUIPMENT		109 00 T				291	12,436	6 536	18 972
		ELECTRICAL EQUIPMENT						572	24,409	12 828	37,237
	10 42 00	RACEWAY, CABLE TRAY, & CONDUIT									
	10 42 00	CONDUIT		85 00 T	N			553	23,592	12 398	35 990
		CABLE TRAY		85 00 T			-	510	21 777	11 444	33 221
		RACEWAY, CABLE TRAY, & CONDUIT						1,063	45,369	23,843	69 211
	10.43 00	CABLE COPPER WIRE / CABLE			.,			***		40.404	
		CABLE		82 00 T	N	•	-	820 820	35,014 35,014	18,401	53 415 53 415
		WHOLE PLANT DEMOLITION						15,613	710,364	338,322	1 048 686
18 00 00	40 40 00	SCRAP VALUE									
	18 10 00	CARBON STEEL CARBON STEEL		-5,359 00 T	N		389 594)				(889,594)
		CARBON STEEL		-5,359 00 1			89 594)	-		_	(889,594)
						,,,,					/
	18.30 00	COPPER									
		SOLID COPPER #1 INSULATED COPPER WIRE 65%	CONDENSER TUBES	-52 50 T -82 00 T			224 175) 184 418)				(224,175) (184,418)
		COPPER WIRE 65%		-0200 1	14		78,593)	•			(408 593)
		SCRAP VALUE					98,187)				(1 298.187)

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INTAKE STRUCTURE ORAFT EQUIPMENT TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AIR HEATER ROOM, MISCELLANEOUS	70 00 CY 8,300 00 CY 371 00 CY 1 650 00 CY 1 774 00 CY 1 303 00 CY 5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF	(1,298,187)	15,613 79 7088 417 1 426 1 051 2 345 86 214 43 112 748 2 029 2,029 448 448 174 174 175 150 150	710,364 3 896 350,619 20,648 70 562 51 975 4 098 10 146 2 024 629 993 94 935 94,935 20 205 20 205 7,436 6 405 6 406	1,706 153 516 9,040 30,895 22,757 50,801 2 705 6 699 1,336 279,464 32,788 12 239 12 239 12 239 3 908 3 908 3 908 3 966 3 366	(249,50° 5,6,504,1 29,6,5 101.4 74.7 168,8 6.8 3.3 909,44 127.7 127.7 32.4 32,4 11.3 11.3
DRAFT EQUIPMENT TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN TWEIGHT BOILER ROOM TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AIR HEATER ROOM, MISCELLANEOUS	8,300 00 CY 371 00 CY 1590 00 CY 1754 00 CY 1303 00 CY 5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF		7 088 417 1 420 1 051 2 345 86 214 43 12 748 2 029 2,029 448 448 474 174 174	350,619 20,648 70,562 51,975 116,027 4,098 10,146 2,024 629,993 94,935 94,935 20,205 20,206 7,436 6,405	153 515 9,040 30,895 22,757 50,801 2 705 6 699 1,336 279,464 32,788 32,788 12 239 12 239 12 239 3,908 3,368	504.1 29.8 101.4 74.7 168.8 6.8 16.8 3.3 909.4 127.7 127.7 127.7 32.4 32.4 11.3
DRAFT EQUIPMENT TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN TWEIGHT BOILER ROOM TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AIR HEATER ROOM, MISCELLANEOUS	8,300 00 CY 371 00 CY 1590 00 CY 1754 00 CY 1303 00 CY 5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF		7 088 417 1 420 1 051 2 345 86 214 43 12 748 2 029 2,029 448 448 474 174 174	350,619 20,648 70,562 51,975 116,027 4,098 10,146 2,024 629,993 94,935 94,935 20,205 20,206 7,436 6,405	153 515 9,040 30,895 22,757 50,801 2 705 6 699 1,336 279,464 32,788 32,788 12 239 12 239 12 239 3,908 3,368	504,4 29,6 1011,7 74,7 166,6 6,6 16,8 3,3 909,4 127,7 127,7 32,4 32,4 11,1 11,3
DRAFT EQUIPMENT TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN TWEIGHT BOILER ROOM TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AIR HEATER ROOM, MISCELLANEOUS	8,300 00 CY 371 00 CY 1590 00 CY 1754 00 CY 1303 00 CY 5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF		7 088 417 1 420 1 051 2 345 86 214 43 12 748 2 029 2,029 448 448 474 174 174	350,619 20,648 70,562 51,975 116,027 4,098 10,146 2,024 629,993 94,935 94,935 20,205 20,206 7,436 6,405	153 515 9,040 30,895 22,757 50,801 2 705 6 699 1,336 279,464 32,788 32,788 12 239 12 239 12 239 3,908 3,368	504,4 29,1 1011 74:74:768,6 66:768,7 162,7 163,7 164:7 164:7 164:7 165:7
TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT ARA AIR HEATER ROOM, MISCELLANEOUS	371 00 CY 1 590 00 CY 1 774 00 CY 1 303 00 CY 5 75 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF		417 1 426 1 051 2 345 86 214 43 12 748 2 029 2,029 448 448 174 174	20,648 70 562 51 975 116 027 4 098 10 146 2 024 629 993 94,935 94,935 20 205 7,436 7,436 6 405	9,040 30,895 22,787 50,801 2.705 6.699 1,336 279,464 32,788 12,239 12,239 12,239 3,908 3,908	29, 101 101 74 166, 66 16 16 16 17 127 127 127 127 11 11 11 11 11 11 11 11 11 11 11 11 11
WALLS, PIERS CURBS AND BASIN TWEIGHT BOILER ROOM TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AIR HEATER ROOM, MISCELLANEOUS	1 690 00 CY 1 754 00 CY 1 303 00 CY 5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF		1 426 1 051 2 345 86 2 14 43 1 2 748 2 029 2 ,029 448 448 174 174	70 562 51 975 116 027 4 098 10 146 2 024 629 993 94 935 94,935 20 205 20 206 7,436 6 405	30,895 22,757 50,801 2 705 6 699 1,336 279,464 32,786 32,788 12 229 12 239 3 908 3,908	101 74 166. 166 16 16 16 16 17 127 127 127 127 11 11 11 11 19
TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AREA AIR HEATER ROOM, MISCELLANEOUS	1754 00 CY 1303 00 CY 5751 00 SP 14 240 00 SP 2 840 00 SP 1 997 00 TN 56 000 00 SP 86 00 TN		1 051 2 345 66 214 43 12 748 2 029 2 029 2 029 448 448 174 174	51 975 116 027 4 098 10 146 2 024 629 993 94 935 94,935 20 205 20 206 7,436 6 405	22,757 50,801 2 705 6 699 1,336 279,464 32,766 32,788 12 239 12 239 12 239 3,908 3,908	74 166, 166, 166, 166, 166, 166, 166, 166
TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AREA AIR HEATER ROOM, MISCELLANEOUS	1 303 00 CV 575100 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF 86 00 TN		2 345 86 214 43 12 748 2 029 2,029 448 448 174 174	116 027 4 098 10 146 2 024 629 993 94 935 94,935 20 205 20 205 7,436 7,436 6 405	50,801 2 705 6 699 1,336 279,464 32,788 12 239 12 239 12 239 3,908 3,308	166, 6 6 16 16 3, 909,4 127 127 127 127 127 127 127 127 127 127
TWEIGHT TURBINE ROOM, CONTROL HOUSE ELECTRICAL BAY, WATER TREATMENT AREA AREA AIR HEATER ROOM, MISCELLANEOUS	5 751 00 SF 14 240 00 SF 2 840 00 SF 1 997 00 TN 56 000 00 SF 86 00 TN		214 43 12 748 2 029 2,029 448 448 174 174	4 098 10 146 2 024 629 993 94 935 94 935 20 205 20 206 7 436 7 436 6 405	1,336 279,464 32,786 32,788 12,239 12,239 3,908 3,908	6 16 3 3 999, 127 127 127 32 32, 11 11 9 9
ELECTRICAL BAY, WATER TREATMENT AREA TWEIGHT AIR HEATER ROOM, MISCELLANEOUS	2 840 00 SF 1 997 00 TN 56 000 00 SF 86 00 TN		43 12 748 2 029 2,029 448 448 174 174	2 024 629 993 84 935 94,935 20 205 20 205 7,436 7,436 6 405	1,336 279,464 32,788 32,788 12,239 12,239 12,239 3,908 3,908 3,308	3, 909, 127 127 127 127 127 127 127 127 127 127
ELECTRICAL BAY, WATER TREATMENT AREA TWEIGHT AIR HEATER ROOM, MISCELLANEOUS	2 840 00 SF 1 997 00 TN 56 000 00 SF 86 00 TN		43 12 748 2 029 2,029 448 448 174 174	2 024 629 993 84 935 94,935 20 205 20 205 7,436 7,436 6 405	1,336 279,464 32,788 32,788 12,239 12,239 12,239 3,908 3,908 3,308	32 32 32, 11 11
TWEIGHT AIR HEATER ROOM, MISCELLANEOUS	1997 00 TN 56 000 00 SF 86 00 TN 100 EA		12 748 2 029 2 029 2 029 448 448 448 448 474 174 174 156	94 995 94,935 94,935 20 205 20 205 7,436 7,436 6,405	279,464 32,768 32,788 12,239 12,239 12,239 3,908 3,908 3,366	909,4 127 127 1 32 32,4 11
	56 000 00 SF 86 00 TN 1 00 EA		2 029 2,029 448 448 174 174 150	94 935 94,935 20 205 20 206 7 436 7 436 6 405	32 788 32,788 12 239 12 239 3 908 3 908	127 127 3 32,4 31,1 11,5
	56 000 00 SF 86 00 TN 1 00 EA		2,029 448 448 174 174 150	94,935 20 205 20 206 7,436 7,436 6,405	32,788 12 239 12 239 12 239 3 908 3,908 3 366	32 32, 31,
	56 000 00 SF 86 00 TN 1 00 EA		2,029 448 448 174 174 150	94,935 20 205 20 206 7,436 7,436 6,405	32,788 12 239 12 239 12 239 3 908 3,908 3 366	32 32, 11 11
	86 00 TN 100 EA		448	20 205 20 206 7,436 7,436 6,405	12 239 12 239 3 908 3,908 3 366	32,4 32,4 11 11:
	86 00 TN 100 EA		174	7 436 7 436 7 436	3 908 3,908 3,908	32, 11 11:
	86 00 TN 100 EA		174	7 436 7 436 7 436	3 908 3,908 3,908	32, 11 11
	100 EA		174	7,436 6 405	3,908	11
	100 EA		174	7,436 6 405	3,908	11
			150	6 405	3 366	
IO ED FANC						
			15 744	736,679	338,976	1 075
IU, FU FANS	7,775 00 TN					
	892 00 TN 1 465 00 TN	: :	1 806 3 956	77 129 185 078	40 533 85,162	11 27
MENT	150 00 TN		304	12 970	6 816	1:
	96 00 TN		259	11,068	5,816	1
AL, 22 FT DIA	14 00 TN		38	1 614	848	
	96 00 TN	-	259	11 068	5 816	1
CHEMICAL	147 00 TN		298	12 711	6 680	11
	100 EA		267	12 493	4 315	11
	453 00 TN	1 1	917	39 170	20 585	5:
	100 EA		30	1 404	485	
	350 00 TN		709 612	30 254 26,113	15 904 13,723	4
GANTRY CRANE	302 00 TN 100 FA	: :				3
SATITO ISSUE	100 411		25,348	1,164 165	549,027	1,713
	400.17		4.425	49.009	26.246	,
	100 LI		1,125	48,038	25,245	73
BOILER AND TURBINE PLANT	1 237 00 TN	-	2 505	106 960	56 211	163
PIPING AND	100 LT		803	34,288	18 019	52
BOP	167 00 TN		338	14,440	7,589	22
CIRCULATING WATER 84 IN DIA INTAKE PIPING	130 00 TN		263	11,241	5 907	17
			3 909	166 929	87 726	254
					13 371	
						3
	PIPING AND BOP CIRCULATING WATER 84 IN DIA INTAKE	GANTRY CRANE	GANTRY CRANE	GANTRY CRANE 1 00 EA	GANTRY CRANE 100 EA - 150 <u>6.405</u> 28,348 1,164 185 100 LT - 1,125 48.038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,125 48,038 1,121 - 1,125 48,038 1,121 1,125	GANTRY CRANE 100 EA 150 6405 3.385 25,348 1.164 165 643,027 100 LT - 1.125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,125 48,038 25,245 1,126 48,038 25,

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Area		10 41 00	Description ELECTRICAL EQUIPMENT	Notes	Quantity	-0 1000	Cost	Scrap Value	Material Cost	Man Hours	Labor Cost E	Equip Amount	Total Cost
		10 47 00	LIGHT FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT		200 00 71 00		:	-		80 190	3 416 8 101	1 795 4 257	5 211 12,358
			ELECTRICAL EQUIPMENT		,100					866	36,960	19,423	56,383
		10 42 00	RACEWAY, CABLE TRAY, & CONDUIT										70 709
			CONDUIT CABLE TRAY		167 00 167 00			-		1,086 1 002	46 351 42 785	24 359 22 485	65 270
			RACEWAY, CABLE TRAY, & CONDUIT							2 088	89 136	46 844	135,980
		10 43 00	CABLE COPPER WIRE / CABLE		160 00	TN				1 600	68 320	35 904	104 224
			CABLE		100 00					1,600	68,320	35,904	104,224
			WHOLE PLANT DEPOLITION							50,485	2 332 522	1,095,924	3 428,446
	18 00 00		SCRAP VALUE										
		18 10 00	CARBON STEEL CARBON STEEL		-15 985 00	TN		(2,653,510)					(2,653,510)
			CARBON STEEL				_	(2,653,510)				_	(2,653,510)
		18 30 00	COPPER										
			#1 INSULATED COPPER WIRE 65% COPPER		-160 00	IN	•	(359,840)	-			_	(359.840)
			SCRAP VALUE					(3 0 13 359)					(3,013,350)
;	22 00 00		CONCRETE										
		22 13 00	CONCRETE FLOWABLE FILL 1500 PSI	DISCHARGE CLOSURE, 2 - 72" DIAMETER	335 00	CY			31,825	168	6,611	2,117	40,553
			CONCRETE	BURIED PIPES				_	31825	168	6,611	2 117	40,563
			CONCRETE						31 825	168	6 611	2 117	40 553
			E UNIT 5					(3,013,350)	31,825	50,653	2,339,133	1,098,041	455,649
F			COMMON FACILITIES										
	10 00 00	10 21 00	WHOLE PLANT DEMOLITION CIVIL WORK										
		10 21 00	REMOVE FENCE		500 00	LF	-	-		13	615	569	1 184
			REMOVE RAILROAD TRACK RAIL, TIES SPREAD BALLAST PAVED SURFACES		5 800 00 7 450 00		-	•		1 305 894	64,193 43 976	59,378 40 677	123 570 84 653
			INTAKE CANAL SHEET PILING	ABANDON IN PLACE		LS				-			
			CIVIL WORK							2,212	108,784	100,623	209 407
		10 22,00	CONCRETE BUILDING/EQUIPMENT FOUNDATION/PAD	MISC EQUIPMENT PADS AND SITE BLD	777 00	CV				874	43,243	18,934	62 177
				FOUNDATIONS									
			BUILDING/EQUIPMENT FOUNDATION/PAD BUILDING/EQUIPMENT FOUNDATION/PAD	TANK AND PUMP FOUDATIONS TRANSFORMER FOUNDATION FIRE	403 00 50 00		-			453 56	22,428 2 783	9 820 1 218	32,249 4 001
			BUILDING/EQUIPMENT FOUNDATION/PAD	WALLS PIERS CURBS AND BASIN INTAKE STRUCTURE, FOR UNITS 1 2 3 4	70 00	CY	-	-		79	3,896	1,706	5,601
			BUILDING/EQUIPMENT FOUNDATION/PAD	ONLY DISCHARGE STRUCTURE FOR UNITS 1, 2,	100 00	CY		-		113	5,565	2 437	8 002
			BUILDING/EQUIPMENT FOUNDATION/PAD	3, 4 ONLY EXISTING R O BUILDING EXTENTION, 15' X	17 00	CY		,		19	946	414	1,360
			BUILDING/EQUIPMENT FOUNDATION/PAD	30' NEW EQUIPMENT SHED NEAR WELD PIPE	53 00	CY				60	2 950	1 291	4,241
			DISCHARGE OUTFALL STRUCTURE	SHOP	20 00	CY				15	742	325	1 067
			CURBS		2,000 00		-	-		24	1 181	1 092	2 273
			WALKWAYS CONCRETE		100 00	CY	•	•		53 _ 1 745	2 597 86.331	1 137 38,374	3,734 124,705
		10 23 00	STEEL										
			STRUCTURAL STEEL	DISCHARGE OUTFALL STRUCTURE	20 00	TN	-	-		20 _	951	328	1 279
			STEEL							20	951	328	1,279
		10 24 00	ARCHITECTURAL BUILDING	SHOP STORE ROOM	23 712 00	CF				71	3,208	1,943	5,152
			BUILDING	WATER TREATING HOUSE	8 640 00	CF				26	1 169	708	1,877
			BUILDING BUILDING	MISCELLANEOUS SMALL SIZE BUILDINGS SHOP STORE ROOM SHED	16,000 00 13 000 00					48 39	2 165 1 759	1 311 1,065	3,476 2,824
					Page		-			***		.,	-,
					•								

Estimate No 24262F Project No A13351 021 Estimate Date 8/17/20 Prep/Rev/Appr GA/BA/BA



Group	Phase	Description	Notes	Quantity	Subcontr			aterial Cost	Man Hours	Labor Cost	Equip Amount	Total Cost
all and the second		ARCHITECTURAL		E. Do Brassa	Cost	í zil	" 2.322E	Care ili		Mid aures 's mi		Carelle of the section
		BUILDING	NE STORE ROOM	30 000 00	CF		-		90	4 059	2 459	6.518
		BUILDING	E STORE ROOM	19,200 00					58	2 598	1,574	4,17
		BUILDING BUILDING	ADDITION TO EXISTING RO BUILDING NEW EQUIPMENT SHED NEAR WELD PIPE	5,400 00 17,040 00		:	:		16 51	731 2,306	443 1,397	1,173
		ARCHITECTURAL	SHOP						399	17,994	10 900	28,894
10	26 00	MISCELLANEOUS STRUCTURAL ITEM MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		100	LT				2 000	85 400	44 880	130,280
		SITE MISCELLANEOUS STRUCTURAL ITEM							2 000	85 400	44 880	139,280
10		MECHANICAL EQUIPMENT										
		FUEL OIL STORAGE TANK, 200 000 8BL, 2 EACH MISCELLANEOUS STORAGE TANKS AND PUMPS		750 00		-			2 025	86,468	45,441	131,909
		MISCELLANEOUS FUEL OIL EQUIPMENT		450 00 150 00					1 215 401	51,881 17 114	27 265 8 994	79 145 26,108
		MECHANICAL EQUIPMENT		13000		-	•		3 641	155,462	81 700	237 162
10		PIPING HYDRANTS		100					113	5 558	5 142	10 700
		YARD DRAINAGE AND UNDERGROUD FIRE LINE PIPE PIPING	ABANDON IN PLACE		LT	:	:		_	5 558		10,700
40	4100	ELECTRICAL EQUIPMENT							113	2 008	5 142	10,700
10		OUTDOOR LIGHT POLE / FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT		180 00 60 00					270 160	11,529 6 846	6,059	17,588
		ELECTRICAL EQUIPMENT		60 00	IN				430	18 375	3,598 9,656	10,443 28,031
		WHOLE PLANT DEMOLITION				-			10 550	478 854	291 603	770,458
18 00 00	10 00	SCRAP VALUE CARBON STEEL										
10	10 00	CARBON STEEL		1,430 00	TN		(237,380)					(237 380)
		CARBON STEEL CARBON STEEL	RAILROAD TRACK	-213 00		٠.	(35 358)					(35 358)
		SCRAP VALUE					(272,738) (272,738)					(272,738) (272,738)
210000		CIVIL WORK										
21		EARTHWORK, EXCAVATION FOUNDATION EXCAVATION, USING 1 CY BACKHOE	CONTAMINATED SOIL	12,617 00	av.				4 803	404.604	20.405	427.000
		MASS EXCAVATION	LEVEL BERMS AND DIKES	1,026 00		÷	:		1 893 41	104 601 2 114	32,495 3 881	137 096 5 994
		EARTHWORK, EXCAVATION		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•				1,934	106,716	36 376	143 091
21		MASS FILL, MASS FILL COMMON EARTH USING DUMP TRUCK, 10 MI	COVER DISTURBED AREAS OF SITE AND	231 297 00	cv			6 013,722	8 096	416 913	765,501	7,196,135
		ROUND TRIP MASS FILL	PONDS WITH 2FT OF SOIL	13113700	01		_	6,013 722	8 095	416,913	765,501	7,196,135
24	47 00	LANDSCAPING						0,013722	0 000	410,013	700,001	7,130,130
21	4, 00	HYDRO SEEDING		13 00		28,028						28 028
		LANDSCAPING			21	8,028						28,028
21	52 00	WASTE DISPOSAL DISPOSAL AND TRANSPORTATION FEE	BUILDING DEBRIS	1 500 00	CY 2	27,000	_					27,000
		DISPOSAL AND TRANSPORTATION FEE	CONTAMINATED SOIL	12,617 00		78 510	- :					378 510
		WASTE DISPOSAL			409	5,510					-	405,510
		CIVIL WORK			43:	3,538		6 013 722	10 029	623 628	801876	7,772,764
22 00 00 22	13 00	CONCRETE										
	: 13 00		INTAKE STRUCTURE CLOSURE FOR UNITS 1,2 3 4 ONLY	71 00	сү			6 745	36	1,401	449	8 595
	: 13 00	CONCRETE		71 00	CY			6 745 6 745 8,745	36 36	1,401 1,491 1,491	449 449 449	8 595 8,596 8,598



Lieberman Plant Units 1-4 **CONCEPTUAL DEMOLITION COST ESTIMATE**

Prepared for: Southwestern Electric Power Company(Owner) and American Electric Power

> Project No. A13351.021 August 19, 2020 Revision 0



55 East Monroe Street Chicago, IL 60603-5780 USA

Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
A	7/10/20	Comments	G. Amen	B. Andric		All
0	8/19/20	Use	G. Amen	B. Andric	A. Redd	Ali

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EXHIBIT DESCRIPTION

1 Demolition Cost Estimate No. 24249F

1.0 INTRODUCTION

The Lieberman Plant located near Mooringsport, Louisiana in Caddo County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of four (4) gas fired generating units with a total generating capacity of 278 megawatts. The Units were placed in operation as follows:

Unit 1	1947 (Retired In-Place)
Unit 2	1949 (Retired In-Place)
Unit 3	1957
Unit 4	1959

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for Lieberman Plant Units in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Lieberman Plant Units 1-4 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 24249F, was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description
10	Demolition Costs
18	Scrap Value Costs
21	Civil Work Costs
90, 91, 92	General Condition Costs
93	Indirect Costs
94	Contingency Costs
96	Escalation Costs

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2
Cost Estimate Results Summary

Description	Total Cost
Demolition Direct Cost	\$ 4,737,160
Scrap Value	(\$ 3,866,586)
General Conditions Cost	\$ 1,728,700
Indirect Cost	\$ 646,600
Contingency Cost	\$ 1,098,000
Total Project Cost	\$ 4,343,874

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete Lieberman Plant Units 1-4 generating facility and plant common services associated with the unit. Common facilities include:

- > Various Storerooms and Buildings
- > Intake and Discharge Structures
- > Fuel Oil Equipment and Tanks
- > Water Treating House and Equipment

The following are excluded from the scope of the conceptual demolition cost estimate:

- Asbestos Removal
- Switchyard

The following items were included in the current cost estimate and were not included in the 2016 cost estimate:

- > Unit 1 Steam Turbine Generator has been removed.
- ➤ Unit 4 Condenser tubes have been replaced with 316 SS Tubes.
- Added new building, 20 ft x 24 ft.
- Added new turbine plate and frame lube oil coolers external to the oil tanks on both Units 3 and 4. Two on each unit.

Revisions to the plant facilities that would affect the current cost estimate were provided by plant personnel through correspondence.

4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the Lieberman Plant is a conceptual estimate of the cost to dismantle Lieberman Plant Units 1-4. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap value of metals, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A one (1) year demolition schedule is anticipated not including asbestos removal (to be performed prior to start of demolition work). All units will be demolished at the same time.

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Shreveport, Louisiana as published in "R.S. Means Labor Rates for the Construction Industry", 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation, federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed.

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

- > Labor Supervision
- Construction Management
- > Field Office Expenses
- > Safety
- > Temporary Facilities
- > Mobilization / Demobilization
- Legal Expenses / Claims
- ➤ Small Tools & Consumables
- > General Liability Insurance
- Construction Equipment Mobilization / Demobilization
- Freight on Material
- ➤ Contractor's General and Administrative Costs
- > Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- > Carbon Steel Value @ 166 \$/ton
- > Copper Value @ 4,270 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton
- > Stainless Steel @ 830 \$/ton

Note: 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- > Engineering, Procurement and Project Services: None included.
- > Construction Management Support: None included.
- Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- > Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.
- Labor: Included as 10.0% of the total labor cost.
- Indirect: Included as 10.0% of the total indirect cost.

4.8 Assumptions

The following assumptions apply to the cost estimate.

- > All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- > All fuel oil will be consumed prior to demolition.
- > All electrical equipment and wiring is de-energized prior to start of dismantlement.
- > No extraordinary environmental costs for demolition have been included.
- > Emergency or Black Start Diesels are not included.
- > Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- > Switchyards within the plant boundaries are not part of the scope, neither are access roads to these facilities. Fences and gates needed to protect the switchyard will be left in place.
- All items above grade and to a depth of two (2) feet will be demolished. Any other items buried more than two (2) feet will remain in place. All foundations are removed and buried on site.
- > Underground piping, conduit and cable ducts will be abandoned in place.
- Underground piping larger than four (4) feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- > The basis for salvage estimating is for scrap value only. No resale of equipment or material is included.
- Disturbed areas will be buried under two (2) feet of topsoil mulched and seeded with grass no other landscaping is included.
- > All borrow material is assumed to be from onsite sources.
- > Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a five (5) mile haul.
- > The entire weight of transformers and generators are valued using only the carbon steel scrap value rate. No additional value is considered for the copper metal content. This is based on information supplied by scrap dealers. Additional cost to the scrap dealer to separate the different metals is offset by the increased value of the copper.
- Concrete / Brick chimney(s) will be demolished using Top-To-Bottom, Piece-Meal, Non-Explosive demolition method.

5.0 REFERENCES

Drawings utilized in the preparation of the demolition cost estimate are identified in Table 5-1.

Table 5-1
Reference Drawings

Document	Revision/Date/Job	
Number	No.	Title
SL-1401	job 2390-1	Equipment Data Unit 3
M-1	Rev J	Property Plat
M-120	3/1/56	General Arrangement Plan, Main Floor, Unit 3
M-121	Rev A	General Arrangement Plan, Basement Floor, Unit 3
M-122	Rev A	General Arrangement Plan, Cross Section, Unit 3
M-123	3/1/56	General Arrangement Plan, DC Htr & Fan Floor, Unit 3
M-124	3/1/56	General Arrangement Plan, Turbine Room, Unit 3
M-125	3/1/56	General Arrangement Plan, Longitudinal Section - Pump
		Bay, Unit 3
SL-1548	job 2641	Equipment Data, Building Data Unit 4
M-251	12-11-56	General Arrangement Plan, Main Floor, Unit 4
M-252	12-11-56	General Arrangement Plan, Basement Floor, Unit 4
M-253	1-15-57	General Arrangement Plan, Cross Section, Unit 4
M-254	12-11-56	General Arrangement Plan, DC Htr & Fan Floor, Unit 4
M-255	12-11-56	General Arrangement Plan, Longitudinal Sect., Turbine
		Room, Unit 4
M-256	12-11-56	General Arrangement Plan, Longitudinal Sect., Pump Bay,
		Unit 4

EXHIBIT 1 Lieberman Plant Unit 1 Conceptual Demolition Cost Estimate No. 24249F

AEP/SWEPCO LIEBERMAN POWER STATION DEMOLITION COST ESTIMATE

Estimator	GA
Labor rate table	20LASHR
Project No.	A13351 021
Estimate Date	8/19/20
Reviewed By	BA
Approved By	BA
Estimate No.	24249F

Estimate No 24249F Project No A13351 021 Estimate Date 8/19/20 Prep/Rev/App GA/BA/BA AEP / SWEPCO LIEBERMAN POWER STATION DEMOLITION COST ESTIMATE



Area Description	Subcontract Cost Sc	crap Value Material	Cost Man Hours	r Cost	Equip Amount	tal Cost
A UNIT 1 B UNIT 2		(578,245) (612 939)	9 260 9 651	410,384 426,082	200 717 209 112	32 856 22 255
C UNIT 3		(1 259 515)	19 846	842,285	414 386	12 844)
D UNIT 4		(1 299 023)	18 689	826,389	497,671	(64 963)
E COMMON FACILITIES	365 060	(116 864)	8 167	365 246	269,827	883,269
TOTAL DIRECT	365.060	(3.866 586)	64 R12	2.870.386	1.601.714	870.574

Estimate No 24249F Project No A13351 021 Estimate Date 8/19/20 Prep/Rev/App GA/BA/BA

AEP / SWEPCO LIEBERMAN POWER STATION DEMOLITION COST ESTIMATE



Estimate Totals

Descrip	tion Amount	Totals	Hours
Labor	2,870,386		64,812
Material			
Subcontract	365,060		
Construction Equipment	1,501,714		
Scrap Value	(3.866,586)		
	876 574	870 574	
General Conditions			
Additional Labor Costs			
90-1 Labor Supervision	172,200		
90-2 Show-up Time	57 400		
90-3 Cost Due To OT 5-10 s 90-4 Cost Due To OT 6-10 s			
90-5 Per Diem			
Site Overheads			
91-1 Construction Management	310,000		
91-2 Field Office Expenses	68 200		
91-3 Matenal&Criality Control			
91-4 Site Services 91-5 Safety	61.200		
91-6 Temporary Facilities	46 600		
91-7 Temporary Utilities			
91-8 Mobilization/Demob	49 100		
91-9 Legal Expenses/Claims	7 300		
Other Construction Indirects			
92-1 Small Tools & Consumables 92-2 Scaffolding	31,000		
92-2 Scallololing 92-3 General Liability Insur	31 000		
92-4 Constr Equip Mob/Demob	15 000		
92-5 Freight on Material			
92-6 Freight on Scrap Value			
92-7 Sales Tax 92-8 Contractors G&A	362 200		
92-9 Contractors Profit	517,500		
	1 728,700	2,599 274	
Project Indirect Costs			
93-1 Engineering Services			
93-2 CM Support 93-3 Start-Up/Commissioning			
93-4 Start-Up/Spare Parts			
93-5 Excess Liability Insur			
93-6 Sales Tax On Indirects			
93-7 Owners Cost	646 600		
93-8 EPC Fee	646 600	3 246 874	
	546 600	3 246 874	
Contingency			
94-1 Contingency on Const Eq	177 200		
94-3 Contingency on Material			
94-4 Contingency on Labor	432 900		
94-5 Conlingency on Subcontr 94-6 Conlingency on Scrap	36 500 386 700		
94-7 Contingency on Indicect	64,700		
	1 090,000	4 343 874	
Escalation			
96-1 Escalation on Const Equip			
96-3 Escalation on Material			
96-4 Escalation on Labor			
96-5 Escalation on Subcontract			
96-6 Escalation on Scrap			
96-7 Escalation on Indirects		4 343 874	
		. 040 074	
98 Interest During Constr			
		4 343 874	
Total		4.343.874	
iotai		4,343,874	

Estimate No 24249F Project No A13351 021 Estimate Date 8/19/20 Prep/Rev/Appr GA/BA/BA

AEP / SWEPCO LIEBERMAN POWER STATION DEMOLITION COST ESTIMATE



Group	Phase.	Description	Notes	Quantity	Subcontract Cost	Scrap Value Material	Cost Man Hours L	abor Cost Equ	ulp Amount	lotal C
		UNIT 1								
10 00 00	10 22,08	V/HOLE PLANT DEMOLITION CONCRETE								
	10 22.08	BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT FOUNDATION (2FT BELOW GRADE)	124 00 CY		•	140	6 595	3 022	
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION FIRE WALLS, PIERS, CURBS, AND BASIN	136 00 CY		•	153	7 342	3,314	
		MAIN POWER BLOCK FOUNDATION		802 00 CY	-	•	677	32 484	14,661	
		ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL		161 00 CY 467 00 CY	•	•	96 841	4 628 40,340	2,089 18.207	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	BOILER ROOM	4,934 00 SF	:	•	74	3 414	2,321	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM CONTROL ROOM ELECROIAL BAY BUNKER BAY	4,293 00 SF			64	64 2 971	2 019	
		CONCRETE					2,045	97,874	45,634	
	10 23 00	STEEL STRUCTURAL, GIRT AND GALLERY STEEL		670 00 TN		-	681	30 952	11 000	
		STEEL					681	30 952	11,000	
	10 24 00	ARCHITECTURAL MASONRY WALLS		17 022 00 SF		-	136	5,974	3,720	
		ARCHITECTURAL					136	5,974	3,720	
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM ELEVATOR		100 EA			150	6 243	3,366	
		MISCELLANEOUS STRUCTURAL ITEM					150	6 243	3 366	
	10 31 00	MECHANICAL EQUIPMENT MAIN BOILER AND APPURTENANCES, INCL. ID, FD FANS		990 00 TN			2 005	91 156	43,162	
		AND MOTORS STEAM TURBINE GENERATOR	REMOVED	TN						
		FLUES AND DUCTS INCL SREACHING		83 00 TN		-	224	10 190	4,825	
		FEEDWATER SYSTEM DEAERATING EQUIPMENT		59 00 TN	•	•	119	4,973	2,681	
		MISCELLANEOUS SMALL TANKS WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT		25 00 TN 83 00 TN		:	68 168	2 809 6,995	1,515 3,772	
		TURBINE ROOM OH CRANE, 50/10 TON		100 LS		-	188	8 526	3 030	
		MISCELLANEOUS EQUIPMENT		95 00 TN		•	192	8,007	4 317	
		CONDENSER		120 00 TN		-	243	10 114	5,453	
		CIRCULATING WATER SYSTEM EQUIPMENT	INCLUDING INTAKE RACKS 20 TON BRIDGE CRANE	83 00 TN 30 00 TN		•	168 61	6 995 2 528	3 772 1 363	
		CIRCULATING WATER SYSTEM EQUIPMENT MECHANICAL EQUIPMENT	20 TON BRIDGE CHANE	30 00 18	•	•	3,436	152,293	73,889	•
	10 34 00	HVAC		100 LT			225	9 365	6.040	
		MAIN BUILDING HVAC HVAC		100 L1	•	-	225	9,365	5,049 5 049	
	10 35,00	PIPING PIPING VALVES AND HANGERS	BOILER AND TURBINE PLANT	165 00 TN			334	13,906	7,498	
		CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND TUNNELS	BOILER AND TOKOINE PEANT	100 LT		:	480	19 978	10,771	
		PIPING VALVES AND HANGERS PIPING	BOP	90 00 TN	-	-	182 996	7 585 41,469	4 090 22,359	
	10 41 00	ELECTRICAL EQUIPMENT								
	TRANSFORMERS		35 00 TN		-	94	3 892	2,099		
		LIGHT FIXTURE		300 00 EA		•	120	4 994	2 693	
		MISCELLANEOUS ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT	GENERATOR BUS INCLUDED	54 00 TN	•	•	192 406	8 008 16,894	4,318 9,109	
	10 42 00	RACEWAY, CABLE TRAY, & CONDUIT								
		CONDUIT CABLE TRAY		54 00 TN 54 00 TN			351 324	14 609 13 485	7,876 7,271	
		RACEWAY, CABLE TRAY, & CONDUIT		54.00 10	•	•	676	28 094	15,147	
	10 43 00	CABLE COPPER WIRE / CABLE		51 00 TN			510	21 226	11 444	
		COPPER WRE / CABLE CABLE		5100 TN	-		510 510	21,226	11,444	
	WHOLE PLANT DEMOLITION					9 260	410 384	200,717		

Estimate No 24249F Project No A13351 021 Estimate Oate 8/19/20 Prep/Rev/Appr GA/BA/BA

AEP / SWEPCO LIEBERMAN POWER STATION DEMOLITION COST ESTIMATE



18 00 60		SCRAP VALUE								
18 10.00		CARBON STEEL				455 000				(455
		CARBON STEEL CARBON STEEL		-2,741 00 TN	- (455,006) (455,006)		•			
	18 30 00	COPPER								
		SOLID COPPER #1 INSULATED COPPER WIRE 65%	ISO PHASE	-2 00 TN -51 00 TN		(8 540) (114 699)				(114
		COPPER		-5100 111		(123,239)				(123
		SCRAP VALUE				(578,245)				(578
		A UNIT 1	·			(578,245)	9,260	410,384	200,717	32
		UNIT 2								
10 00 00		WHOLE PLANT DEMOLITION								
	10.22 00	CONCRETE								
		BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT FOUNDATION (2FT BELOW GRADE)	124 00 CY	-	-	140	6 695	3,022	
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION FIRE WALLS, PIERS CURBS AND BASIN	136 00 CY	•	-	153	7 342	3,314	
		MAIN POWER BLOCK FOUNDATION		741 00 CY	-		625	30 013	13,546	
		ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL		149 00 CY 467 00 CY	-	•	89 841	4,283 40,340	1,933 18 207	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	BOILER ROOM	4 792 00 SF	:	÷	72	3,316	2 254	
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM CONTROL ROOM ELECRCIAL BAY BUNKER BAY	3,604 00 SF			54	2,494	1,695	
		CONCRETE	ELECTIONE ON FORMER DAT				1,974	94,483	43,972	1:
	10.23 00	STEEL								
		STRUCTURAL GIRT AND GALLERY STEEL STEEL		670 CO TN	*	-	681 681	30,952 30,952	11,000	
	10 24.00	ARCHITECTURAL								
		MASONRY WALLS ARCHITECTURAL		8 976 00 SF	•	-	72 72	3,150 3 150	1,962 1 962	
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM								
		ELEVATOR MISCELLANEOUS STRUCTURAL ITEM		100 EA	-	-	150 150	6,243	3,366	
							150	0,243	0,000	
	10 31 00	MECHANICAL EQUIPMENT MAIN BOILER AND APPURTENANCES, INCL. ID, FD FANS		990 00 TN			2 005	91,156	43,162	
		AND MOTORS STEAM TURBINE GENERATOR		250 00 TN			527	21 913	11 815	
		FLUES AND DUCTS INCL BREACHING		83 00 TN			224	10,190	4 825	
		FEEDWATER SYSTEM DEAERATING EQUIPMENT		59 00 TN		-	119	4 973	2,681	
		MISCELLANEOUS SMALL TANKS		25 00 TN			68	2,809	1 515	
		WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT		83 00 TN	•	•	168	6,995	3,772	
		TURBINE ROOM OH CRANE 50/10 TON		100 LS	-		188	8,526	3,030	
	MISCELLANEOUS EQUIPMENT		95 00 TN	-	-	192	8 007	4 317		
		CONDENSER		120 00 TN	-	•	243	10,114	5 453	
		CIRCULATING WATER SYSTEM EQUIPMENT CIRCULATING WATER SYSTEM EQUIPMENT	INCLUDING INTAKE RACKS 20 TON BRIDGE CRANE	83 00 TN 30 00 TN	-	-	158 61	6 995 2 528	3,772 1,363	
		MECHANICAL EQUIPMENT	20 TON BRIDGE CRONE	3000 111			3,962	174 206	85,704	2
	10 34 00	HVAC MAIN BUILDING HVAC		100 LY			225	9 365	5 049	
		HVAC		100 L1	•	-	225	9,365	5,049	
	10 35 00	PIPING								
		PIPING VALVES AND HANGERS CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND	BOILER AND TURBINE PLANT	165.00 TN 1.00 LT	:	:	334 480	13,906 19 978	7,498 10,771	
		TUNNELS PIPING VALVES AND HANGERS	вор	90 00 TN			182	7 585	4,090	
		PIPING					996	41 469	22 359	
	19 41 00	ELECTRICAL EQUIPMENT					_			
		TRANSFORMERS		35 00 TN	-	•	94	3 892	2,099	



Philippe Co., New York Co., Ne		o o stanky vizo orthogramythy. Wr. orthogram translations of the stanky	* Market Market Parante T. 1985, Y. J. Market Market Market L. 1985, 1985, 1985, 1985, 1985, 1985, 1985, 1985,	anta a acumin um de en artembre u	ik danda - darini Polit i		ne producti de come de la come de	r.s. 181 * 85.7785	Eng. named 3 W p. 3. physiological discount	s in the same
Area Group	Phase	Description .	Notes	Quantity	Subcontract S	crap Value Materia	Cost Man Hours	abor Cost - E	ulp Amount 1	Total Cost
4 - 0 N AND E SHIPPETS	10 41 00	ELECTRICAL EQUIPMENT	a differ 1. 19 co. 1 control to service a control of the transfer of the following of the service of the servic		metho form of a consistency	TELEPHONENS STATES				
		LIGHT FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT	GENERATOR BUS INCLUDED	300 00 EA 54 00 TN		•	120 192	4,994 8 008	2 693 4 318	7 687 12 325
		ELECTRICAL EQUIPMENT		2.02			406	16,894	9,109	26,003
	10 42 60	RACEWAY, CABLE TRAY, & CONDUIT								
		CONDUIT CABLE TRAY		54 00 TN 54 00 TN			351 324	14 609 13 485	7,876 7 271	22 485 20 755
		RACEWAY, CABLE TRAY, & CONDUIT		2132			675	28 094	15,147	43,241
	10 43 00	CABLE								
		COPPER WRE / CABLE CABLE		51 00 TN	•	•	510 510	21 226 21,226	11,444	32 671 32,671
		WHOLE PLANT DEMOLITION					9,651	426,082	209 112	635,194
18 00 00		SCRAP VALUE								
	18 10 00	CARBON STEEL CARBON STEEL		-2 950 00 TN		(489 700)				(489,700)
		CARBON STEEL		12 350 00 114		(489,700)				(489 700)
	18 30 00	COPPER								
		SOLID COPPER #1 INSULATED COPPER WIRE 65%	ISO PHASE	-2 00 TN -51 00 TN		(8 540) (114,699)	:			(8 640) (114,699)
		_COPPER				(123.239)				(123,239)
		SCRAP VALUE B UNIT 2				(612 939) (612,939)	9,651	426,082	209,112	(612,939) 22,255
		5 01111 2				(012,000)	0,001	420,002	200,112	22,200
С		UNIT 3								
10 00 00	10 22 00	WHOLE PLANT DEMOLITION CONCRETE								
	10 22 00	BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT ON FRAME	CY						
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE WALLS, PIERS CURBS, AND BASIN	70 00 CY	•	•	79	3,779	1 706	5 485
		MAIN POWER BLOCK FOUNDATION		1,040 00 CY	-	•	878	42,124	19,012	61,136
		ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL		909 00 CY 930 00 CY	:	:	544 1,674	26,130 80,335	11,794 36,259	37 924 116 594
		PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	BOILER ROOM	6,812 00 SF	-	•	102	4,714	3 204	7,918
		CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	TURBINE ROOM CONTROL ROOM	7,284 00 SF			109	5 040	3,426	8,467
		CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	ELECRCIAL BAY BUNKER BAY WATER TREATMENT AREA	320 00 SF	-		5	221	151	372
		CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	AIR HEATER ROOM MISC	5,629 00 SF	-	-	84	3,895	2 648	6 543
		CONCRETE ROOF CONCRETE					3 476	166,238	78,200	244,438
	10 23 00	STEEL								
	10 23 00	STRUCTURAL GIRT AND GALLERY STEEL		1,037 00 TN			1 054	47 907	17 026	64 933
		STEEL					1,054	47,907	17,026	64,933
	10 24 00	ARCHITECTURAL MASONRY WALLS		14.880.00 SF						
		ARCHITECTURAL		14,660 00 SP	•	•	119 119	5,222 5 222	3 252 3 252	8,474 8,474
	10 25 00	CONCRETE CHIMNEY & STACK								
		STEEL STACK 2 EACH 11 FT DIA X 47 FT TALL		33 00 TN	•	•	67	2,781	1 500	4,281
		CONCRETE CHIMNEY & STACK					67	2,781	1,500	4,281
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM ELEVATOR		100 EA			150	6 243	3 366	9 609
		MISCELLANEOUS STRUCTURAL ITEM		100 Ex	•	•	150	6 243	3,366	9,609
	10 31 00	MECHANICAL EQUIPMENT								
		MAIN BOILER AND APPURTENANCES INCL. ID, FD FANS AND MOTORS		2 250 00 TN	-		4 556	207 173	98 096	305 269
		STÉAM TURBINE GENERATOR		523 00 TN	-		1 059	44,079	23 766	67,844
		FLUES AND DUCTS INCL. BREACHING FEEDWATER SYSTEM DEAERATING EQUIPMENT		481 00 TN 100 00 TN	-		1,299 203	59 052 8 428	27 961 4 544	87 013 12,972
		MISCELLANEOUS SMALL TANKS		50 00 TN	-	-	135	5,619	3 029	8,648
		TURBINE ROOM OH CRANE 100/20 TON		100 LS	-	•	267	12,140	4,315	16,455
				Page 6						



Part	Area	iroup Phas	e. Description	Notes	Quantity	Subcontract Cost	Scrap Value, Ma	terial Cost > Main Hours	Labor Cost E	quip Amount	Total Cost
Part	Part of a topic authorities	10 31 0	MECHANICAL EQUIPMENT	COLDER COME TO S. C. C. AND AND ADDRESS STATEMENT OF THE	energy of editorial and an arminer and	NATIONAL BOOK CONTRACTOR	PROGRAM STATISTICS OF SANCHYWAY PROGRAM	. 0. 100 100 100 100 100 100 100 100 100	maryana rawa	42 1 A 1 AK 1 Y 80 YA 0	and distant 41. dr
Composed 1985 198			MISCELLANEOUS EQUIPMENT								
Part							-				
Part				INCLUDING INTAKE RACKS							
10 10 10 10 10 10 10 10			CIRCULATING WATER SYSTEM EQUIPMENT	20 TON GANTRY CRANE	30 00 T	N -		61	2 528	1 363	3,892
Part			MECHANICAL EQUIPMENT					9,075	401,395	196,471	597 867
Part		40.24.0	111/40								
PACE		10 34 0			1.00 1	т.		335	13 943	7.517	21 460
Part											21,460
Part											
Part		10 35 0									
TUMBLE FOR CONTROL FOR C				BOILER AND TURBINE PLANT							
PRIME											
10 4 10				BOP	139 00 T	N -	-				18 031
TRANSFORMERS 1940			PIPING					1,590	66 185	35 685	101 870
TRANSFORMERS 1940		10 41 0	ELECTRICAL EQUIPMENT								
Part		10 410			101 00 T	N -		270	11 232	6 056	
Part											
Part				GENERATOR BUS INCLUDED	144 00 T	Ν .	•				
19 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			ELECTRICAL EQUIPMENT					903	51,061	20,202	01 043
19 00 19 0		10 42 0	RACEWAY, CABLE TRAY, & CONDUIT								
Part			CONDUIT								
19-43 0 CABLE					103 00 T	N -	•				
18 00 00 18 18 00 00 18 18 00 00 18 18			RACEWAY, CABLE TRAY, & CONDUIT					1 255	03 586	28,882	02,977
18 00 00 18 18 00 00 18 18 00 00 18 18		10 43 0	CABLE								
18 00 0 18 0					99 00 T	N -	-				
18 0 0 0 19 0 0 0 19 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										22,216	
18 00 CARRON STEEL 5 1990 TN 1(1)24 064) 1 1024 064 1 1024			WHOLE PLANT DEMOLITION					19,046	842,285	414,386	1,256,671
18 18 18 18 18 18 18 18	18										
SOLD COPPER					-6 169 00 T	N -		•		_	
1		18 30 0	COPPER								
COPPER 1255,615 1255,61				ISO PHASE							(12,810)
SCRAP VALUE					-99 00 T	N -		•			
C UNIT 3 UNIT 4 WIFUE PLANT DEMOLITION 10 20 20 00 UNIT 4 WIFUE PLANT DEMOLITION CONCRETE BUILDING/BOURMENT FOUNDATION/PAD BUILDING/BOURMENT FOUNDATION/PAD TRANSFORMER FOUNDATION/PRE BUILDING/BOURMENT FOUNDATION/PAD TRANSFORMER FOUNDATION/PRE WALLS PIERS CURBS AND BASIN MAIN POWER BLOCK FOUNDATION ELEVATED CONCRETE FLOOR / ROCF TURBUSE PERSOTA PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE ROCF CONCRETE ROCF CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE ROCF CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE ROCF CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE ROCF CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CONCRETE CHANNELS								· · · · · · · · · · · · · · · · · · ·	·	.	
D VINT 4 VINIOLE PLANT DEHOLITION CONCRETE BUILDINAGEOUPMENT FOUNDATIONPAD BUILDINAGEOUPMENT F					*			19,046	842,285	414,386	
10 00.00 WINDLE PLANT DEPOLITION 10 22 00 CONCRETE BUILDINGECUMPRITY FOUNDATION PAD BUILDINGECUMPRI							(-,==-,,	,	,	,	(,- · · ·)
BUILDINACEOURAPH FOUNDATION PAD BUILDINACEOURAPH FOUNDATION FIRE BUILDINACEOURAPH FOUNDATION FIRE BUILDINACEOURAPH FOUNDATION FIRE BUILDINACEOURAPH FOUNDATION FIRE WALLS PIERS CURBS AND BASIN MAIN POWER BLOCK FOUNDATION ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL PRECAST CONCRETE GHANNELS AND LIGHTWEIGHT CONCRETE ROOF PRECAST CONCRETE GHANNELS AND LIGHTWEIGHT CONCRETE ROOF PRECAST CONCRETE GHANNELS AND LIGHTWEIGHT CONCRETE GOVERNAMELS AND LIGHTWEIGHT STRUCTURAL GIRT AND GALLERY STEEL STRUCTURAL GIRT AND GALLERY STEEL ARCHITECTURAL MASONRY WALLS 10.24.00 ARCHITECTURAL MASONRY WALLS 13.52.00 SF - 108 4.746 2.955 7.702		00.00									
BUILDING-EQUIPMENT FOUNDATION PAD TRANSFORMER FOUNDATION, FIRE WALLS PIERS CURBS AND BASIN PARK PAGE AND BASIN		10 22 0									
WALLS PIERS CURBS AND BASIN MAIN POWER BLOCK FOUNDATION							:	79	3 779	1 706	5 485
ELEVATED CONCRETE FLOOR / ROOF TURBINE PEDESTAL PRECAST CONCRETE CHAINELS AND LIGHTWEIGHT CONCRETE ROOF PRECAST CONCRETE CHAINELS AND LIGHTWEIGHT ARRHEATER ROOM, MISC 2,640 0 SF 10 23 00 STEEL STRUCTURAL GIRT AND GALLERY STEEL STRUCTURAL GIRT AND GALLERY STEEL ARCHITECTURAL MASONRY WALLS 10,24,00 ARCHITECTURAL MASONRY WALLS 13,524 0 SF 10,524 0 SF 10,524 0 SF 10,524 0 SF 10,525 0 SF 10,526 0 SF 10,527 0 SF 10,527 0 SF 10,528 0 SF 10,528 0 SF 10,528 0 SF 10,529 0 SF 10,520 0 SF 10,524 0 SF 10,524 0 SF 10,524 0 SF 10,524 0 SF 10,525 0 SF 10,526 0 SF 10,527 0 SF 10,527 0 SF 10,527 0 SF 10,528 0 SF 10,528 0 SF 10,529 0 SF 10,520 0									*****		
TURBINE PEDESTAL PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT PRECAST CONCRETE CONCRETE CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT CONCR							•				
PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT CONCRETE CHANNELS AND LIGHTWEIGHT TURBINE ROOM R\$,812 00 SF . 102 4,714 3.204 7,918 CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT TURBINE ROOM CONTROL ROOM, 7 294 00 SF . 109 5.040 3.426 8.467 CONCRETE ROOF PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 00 SF . 109 5.040 1.927 1.242 3.069 CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 00 SF . 109 5.040 1.927 1.242 3.069 CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 00 SF . 109 5.040 1.927 1.242 3.069 CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 00 SF . 1054 47,807 17,912 244,672 1.009 CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 00 SF . 1054 47,807 17,026 64,933 STRUCTURAL GIRT AND GALLERY STEEL 1,037 00 TN . 1054 47,807 17,026 64,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 64,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 64,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 64,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 164,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 164,933 STEEL 1,037 00 TN . 1054 1,054 47,807 17,026 164,933 STEEL 1,054 00 SF . 1056 1,054 1,											
PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT TURRINE ROOM CONTROL ROOM, 7 294 00 SF				BOILER ROOM							
CONCRETE ROOF ELECRCIAL BAY, BUNKER BAY PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 0 SF . 40 1 827 1 242 3 069 CONCRETE CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,640 0 SF . 40 1 827 1 244,672 244,672 10 244,672											
PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT AIR HEATER ROOM, MISC 2,840 00 SF - 40 1927 1242 3 0.99 CONCRETE ROOF CONCRETE ROOF CONCRETE ROOF 1 1,027 0 T 1,026 244,672 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					7 284 00 S	F -	•	109	5 040	3 426	8 467
CONCRETE ROOF CONCRETE 10 23 00 STEEL 10 24 00 TM			PRECAST CONCRETE CHANNELS AND LIGHTWEIGHT	AIR HEATER ROOM, MISC	2,640 00 8	F -		40	1 827	1 242	3 069
10 23 00 STEEL, STRUCTURAL GIRT AND GALLERY STEEL 1,037 00 TN - 1,054 47,907 17 026 64,933 5TEEL 1,037 00 TN - 1,054 47,907 17,026 64,933 10,24,00 ARCHITECTURAL MASONRY WALLS 13,524 00 SF - 1 108 4,746 2,956 7,702			CONCRÉTE ROOF								
STRUCTURAL GIRT AND GALLERY STEEL 1,037 0 TN - 1 054 47,907 17 026 64,933 STEEL 1,037 0 TN - 1 054 47,907 17,026 64,933 10,24,00 ARCHITECTURAL MASONRY WALLS 13,524 00 SF - 1 108 4,746 2,956 7,702		10.22.0						3 485	166.760	77,912	244,672
STEEL 1,054 47,907 17,026 64,933 10.24,00 ARCHITECTURAL MASONRY WALLS 13,524 00 SF - 1 108 4,746 2 956 7,702		10 23 0			1,037 00 7	и -	-	1 054	47,907	17 026	64,933
MASONRY WALLS 13,524 90 SF - 108 4,746 2 956 7,702											
MASONRY WALLS 13,524 90 SF - 108 4,746 2 956 7,702											
		10.24,0			40.55:	_			4.742	0.05-	7.70-
Page 7			MAGUNKT WALLS		13,524 00 S		•	108	4,/46	2 956	7,702



	⊴ Phase	Description	Notes	Quantity	· Castala !	Scrap Value Mater		Labor Cost . I	Equip Amount	ŢŢ
Ins. of	Militar	ARCHITECTURAL	frankings in a school state in	The Maria and	in dan menji sinda di melike	, et se exert Godinistrib Will sede t	108	4,746	2,956	
	10 25 00	CONCRETE CHIMNEY & STACK								
		STEEL STACK, 2 EACH 11 FT DIA X 47 FT TALL CONCRETE CHIMNEY & STACK		33 00 TN	•	•	67 67	2 781 2 781	1 500 1 500	_
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM								
		ELEVATOR MISCELLANEOUS STRUCTURAL ITEM		100 EA	•	•	150 150	6 243 6,243	3 366 3 366	-
	10 31 60	MECHANICAL EQUIPMENT								
		MAIN BOILER AND APPURTENANCES INCL. ID FD FANS AND MOTORS		2 250 00 TN			4,556	207,173	98 096	
		STEAM TURBINE GENERATOR		523 00 TN			1 069	44 079	23 766	
		FLUES AND DUCTS INCL. BREACHING		481 00 TN		•	1 299	59 052	27 961	
		FEEDWATER SYSTEM DEAERATING EQUIPMENT		100 00 TN			203	8,428	4 544	
		MISCELLANEOUS SMALL TANKS TURBINE ROOM OH CRANE, 100/20 TON	INCL IN UINIT 3 TURBINE ROOM OVERHEAD CRANE	50 00 TN L\$:	-	135	5 619	3 029	
		MISCELLANEOUS EQUIPMENT	CIONIE	122 00 TN			247	10,282	5,544	
		CONDENSER		272 00 TN			551	22 924	12 360	
		CIRCULATING WATER SYSTEM EQUIPMENT	INCLUDING INTAKE RACKS	331 00 TN			670	27 897	15 041	
		CIRCULATING WATER SYSTEM EQUIPMENT 20 TON GANTRY CRANE	INCL IN UNIT 3 20T GANTRY CRANE	TN		•				
		MECHANICAL EQUIPMENT					8,720	385 453	190 341	
	10 34 00	HVAC MAIN BUILDING HVAC		100 LT		-	335	13,943	7 517	
		HVAC					335	13,943	7,517	
	10 35 00	PIPING PIPING VALVES AND HANGERS	BOILER AND TURBINE PLANT	350 00 TN			709	29,498	15,904	
		CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND TUNNELS	DOLECK AND TOXORE PEAR	100 LT	:		600	24 972	13 464	
		PIPING VALVES AND HANGERS	BOP	139 00 TN			281	11 715	6 316	
		PIPING					1 590	66 185	35 686	
	10 41 00	ELECTRICAL EQUIPMENT TRANSFORMERS		101 00 TN		-	270	11,232	6 056	
		LIGHT FIXTURE		300 00 EA	-		120	4 994	2,693	
		MISCELLANEOUS ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT	GENERATOR BUS INCLUDED	144 00 TN		-	513 903	21 354 37,581	11 513 20 262	
	10 42 00	RACEWAY, CABLE TRAY, & CONDUIT								
		CONDUIT		103 00 TN			670	27 865	15 024	
		CABLE TRAY		103 00 TN	•		618	25 721	13,868	
		RACEWAY, CABLE TRAY, & CONDUIT					1 288	53 586	28,892	
	10 43 00	CABLE COPPER WRE / CABLE		99.00 TN		-	990	41 204	22,216	
		CABLE WHOLE PLANT DEMOLITION					990	41,204 826,389	22,216 407,671	_
							10,003	020,003	110,100	
18 00 00	18 10 00	SCRAP VALUE CARBON STEEL								
		CARBON STEEL CARBON STEEL		-6 139 00 TN	*=	(1,019,074)	•		-	
	18 20 60	STAINLESS STEEL				•				
		STAINLESS STEEL	CONDENSER TUBES	-53 50 TN		(44 488)				
		STAINLESS STEEL			_	(44,488)			_	
	18 30 00	COPPER SOLID COPPER	ISO PHASE	-3 00 TN		(12 810)	_			
		#1 INSULATED COPPER WIRE 65%	ISO FINOS	-300 IN -9900 TN	•	(12 810)				
		COPPER		-0200 114	`-	(235 461)	*		-	
		SCRAP VALUE				(1,299 023)				$\overline{}$



Group	Phase		Notes	Quantity		Scrap Value Materi			Equip Amount	
10 00 00	ng water.	WHOLE PLANT DEMOLITION	2012" until 17 de mai 17 (n. 17 de) Especiales (1, 1, 1)	ASSETTED AND SECTION OF THE SECTION	We Virginia in 186	ハッタをきゃっ、 。 。 * * * * * * * * * * * * * * * * *	AE-LM () 1 v () 1 v ",	"a al 2006 Polit Paris e i , a	California - 1 Carabba S	M (14 - 2004)
1	10 21 60	CIVIL WORK								
		FENCING REMAINS IN PLACE REMOVE RAILROAD TRACK RAIL, TIES SPREAD BALLAST		LF 2 000 00 TF	:	-	450	21,474	20,475	41 949
		PAVED SURFACES		1,922 00 SY			231	11 006	10 494	21 500
		CIVIL WORK					681	32,480	30 969	63,449
1	10 22 00	CONCRETE	MISC EQUIPMENT PAOS AND SITE BLD	600 00 CY			675	32 393	14 621	47 014
		BUILDING/EQUIPMENT FOUNDATION/PAD	FOUNDATIONS		•	•				
		BUILDING/EQUIPMENT FOUNDATION/PAD BUILDING/EQUIPMENT FOUNDATION/PAD	TANK AND PUMP FOUNDATIONS TRANSFORMER FOUNDATION FIRE	527 80 CY 21 80 CY	:		593 24	28 452 1,134	12 842 512	41 294 1 645
		DISCHARGE CLOSURE	WALLS PIERS, CURBS AND BASIN	259 00 CY			194	9 322	4 207	13 530
		CURBS		100 00 LF	:		1	57	4 207 55	112
		WALKWAYS		131 00 CY			69	3,301	1,490	4 790
		CONCRETE					1,556	74,659	33,726	108 385
	10 24 00	ARCHITECTURAL								
		BUILDING	WAREHOUSES AND STOREROOM	21,000 00 CF	-	-	63	2,764	1,721	4,485
		BUILDING BUILDING	MAINTENANCE SHOP FUEL OIL PUMPHOUSE	42 000 00 CF 1,728 00 CF	•		126 5	5,528 227	3 442 142	8 970 359
		BUILDING	20 FT X 24 FT BUILDING X 18 FT TALL	1,728 00 CF 8,640 00 CF	:	-	26	1,137	708	1 845
		ARCHITECTURAL	EST TARANTO SIZE NO A TOTAL TIME	0,01000			220	9,656	6,013	15 669
	10 25 00	CONCRETE CHIMNEY & STACK								
		CONCRETE CHIMNEY, NO LINER, DEMOLITION TOP-TO-BOTTOM, PIECE-MEAL, NON EXPLOSIVE	125 FT TALL X 32 FT DIA BASE	100 LS	250,000	-				250 000
		METHOD CONCRETE CHIMNEY & STACK			250,000				_	250 000
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		100 LT			2,000	83,240	44,880	128,120
		SITE MISCELLANEOUS STRUCTURAL ITEM					2,000	83,240	44,880	128,120
	10 31 00	MECHANICAL EQUIPMENT								
		FUEL OIL STORAGE TANK 150,000 BBL, 3 EACH		115 00 TN			311	12,923	6,968	19,891
		MISCELLANEOUS STORAGE TANKS AND PUMPS		481 00 TN	•		1 299	54 052	29 143	83 195
		MISCELLANEOUS FUEL OIL EQUIPMENT		35 00 TN	•	•	95	3 933 70 908	2 121 38 231	6 054 109,139
		MECHANICAL EQUIPMENT					1 704	10 300	38 23 1	103,133
	10 35 00	PIPING HYDRANTS		100 LT			60	2 863	2 730	5 593
		PIPING					60	2,863	2,730	5 593
	10 41 00	ELECTRICAL EQUIPMENT								
		OUTDOOR LIGHT POLE / FIXTURE		180 00 EA		•	270	11,237	6,059	17,296
		MISCELLANEOUS ELECTRICAL EQUIPMENT _ELECTRICAL EQUIPMENT		00 00 TN	•	•	214 — 484	8 898 20 135	4 797 10 856	13 695
		WHOLE PLANT DEMOLITION			250,000		6 704	293 941	167 405	711,346
00		SCRAP VALUE								
	18 10 00	CARBON STEEL								
		CARBON STEEL		-631 00 TN	-	(104 746)	-			(104 746)
		CARBON STEEL CARBON STEEL	RAILROAD TRACK	-73 00 TN	٠-	(12,118)	•		_	(12 118) (116,864)
		SCRAP VALUE				(116 864)				(116,864)
00		CIVIL WORK								
:	21 17 00	EARTHWORK EXCAVATION FOUNDATION EXCAVATION, USING 1 CY BACKHOE	CONTAMINATED SOIL AND SAND UNDER	R 257600 CY		•	386	18 605	6 634	25,240
		EXCAVATE CONCRETE CHIMNEY DEBRIS AND DISPOSE	OIL TANKS	522 00 CY		-	78	3,770	1,344	5,115
		ONSITE MASS EXCAVATION	LEVEL BERMS AND DIKES	976 00 CY	_	_	39	1 913	3 692	5 604
		EARTHWORK, EXCAVATION	ELTE SENTO MIS SINCO	3.500 C1	·		504	24,288	11,671	36,958
:	21 21 00	MASS FILL								
:	21 21 00	MASS FILL CUT & FILL, CLAY, 1500 FT HAUL, 14 CY SCRAPER, DOZER SPREAD COMPACTION WATERING TRUCK		14,765 00 CY	-	•	960	47 017	90 752	137,769



Area Group Phase	Description :	Notes	Quantity	Subcontract Cost	Scrap Value Mate	rial Cost	fours L	abor Cost Eq	uip Amount 90,752	Total Cost
21.47 00	LANDSCAPING HYDRO SEEDING LANDSCAPING		5 00 AC	10,780 10,780	-	-		-	·	10,780 10,780
21 52 00	WASTE DISPOSAL DISPOSAL AND TRANSPORTATION FEE DISPOSAL AND TRANSPORTATION FEE WASTE DISPOSAL	BUILDING DEBRIS CONTAMINATED SOIL AND SAND UNDER OIL TANKS	1,500 00 CY 2,576 00 CY	27,000 77,280					:	27,000 77,280
	CIVIL WORK			115 060		_	1 463	71 305	102 422	288,787
	E COMMON FACILITIES			365,060	(116,864)		8,167	365,246	269,827	883,269



Lone Star Plant Unit 1 CONCEPTUAL DEMOLITION COST ESTIMATE

Prepared for: Southwestern Electric Power Company(Owner) and American Electric Power

> Project No. A13351.021 August 17, 2020 Revision 0

> > Sargent & Lundy"

55 East Monroe Street Chicago, IL 60603-5780 USA

Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
Α	8/7/20	Comments	G. Amen	B. Andric		All
0	8/17/20	Use	G. Amen	B. Andric	A. Redd	All

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E

Conceptual Demolition Cost Estimate No. 24257F

1.0 INTRODUCTION

The Lone Star Plant located near Lone Star, Texas in Morris County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of one gas fired generating unit with a total generating capacity of 40 megawatts. The Unit was placed in operation in 1954. This plant has been retired in June 2020, decommissioning/demolition of the facility has not occurred, and the timeline is unknown.

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for Lone Star Plant Unit 1 in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Lone Star Plant Unit 1 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 24257F, was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description
10	Demolition Costs
18	Scrap Value Costs
21	Civil Work Costs
90, 91, 92	General Conditions Costs
93	Indirect Costs
94	Contingency Costs
96	Escalation Costs

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2 **Cost Estimate Results Summary**

Description	Total Cost
Demolition Direct Cost	\$ 1,722,871
Scrap Value	(\$ 832,913)
General Conditions Cost	\$ 580,600
Indirect Cost	\$ 230,400
Contingency Cost	\$ 336,600
Total Project Cost	\$ 2,037,558

3.0 **TECHNICAL BASIS**

The scope of dismantlement includes the complete Lone Star Plant Unit 1 generating facility along with the remaining Gas Turbine Peaker foundations and facilities. The Gas Turbine Peakers have been removed.

The following are excluded from the scope of the conceptual demolition cost estimate:

- > Asbestos Removal
- > Switchyard

There have not been any major physical capital changes made at the station since the previous 2016 cost estimate.

Revisions to the plant facilities that would affect the current cost estimate were provided by plant personnel through correspondence.

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4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the Lone Star Plant is a conceptual estimate of the cost to dismantle Lone Star Plant Unit 1. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap value of metals, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A one (1) year demolition schedule is anticipated not including asbestos removal (to be performed prior to start of demolition work).

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Dallas, Texas as published in "R.S. Means Labor Rates for the Construction Industry". 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation. federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed.

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

Allowances were included in the cost estimate as direct costs as noted for the following:

- > Labor Supervision
- Construction Management
- > Field Office Expenses
- Safety
- > Temporary Facilities
- > Mobilization / Demobilization
- > Legal Expenses / Claims
- > Small Tools & Consumables
- > General Liability Insurance
- > Construction Equipment Mobilization / Demobilization
- > Freight on Material
- > Contractor's General and Administrative Costs
- Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- Carbon Steel Value @ 166 \$/ton
- > Copper Value @ 4,270 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton

Note: 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- Engineering, Procurement and Project Services: None included.
- > Construction Management Support: None included.
- > Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.
- ➤ Labor: Included as 10.0% of the total labor cost.
- Indirect: Included as 10.0% of the total indirect cost.

4.8 Assumptions

The following assumptions apply to the cost estimate.

- All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- > All fuel oil will be consumed prior to demolition.
- > All electrical equipment and wiring is de-energized prior to start of dismantlement.
- > No extraordinary environmental costs for demolition have been included.
- PCB's are not present on site.
- Emergency or Black Start Diesels are not included.
- ➤ Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- > Switchyards within the plant boundaries are not part of the scope, neither are access roads to these facilities. Fences and gates needed to protect the switchyard will be left in place.
- ➤ The existing Cooling Lake is to be left in place.
- > All items above grade and to a depth of two (2) feet will be demolished. Any other items buried more than two (2) feet will remain in place. All foundations are removed and buried on site.
- > Underground piping, conduit and cable ducts will be abandoned in place.
- > Underground piping larger than four (4) feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- > All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- > The basis for salvage estimating is for scrap value only. No resale of equipment or material is included.
- Disturbed areas will be buried under two (2) feet of topsoil mulched and seeded with grass no other landscaping is included.
- All borrow material is assumed to be purchased from nearby (10 mile round trip) offsite sources.
- Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a five (5) mile haul.
- > The entire weight of transformers and generators are valued using only the carbon steel scrap value rate. No additional value is considered for the copper metal content. This is based on information supplied by scrap dealers. Additional cost to the scrap dealer to separate the different metals is offset by the increased value of the copper.

5.0 REFERENCES

5.1 Estimator's notes and data collected at the Lone Star Plant during the initial on-site visit held in August 2008.

EXHIBIT 1 Lone Star Plant Unit 1 Conceptual Demolition Cost Estimate No. 24257F

AEP SWEPCO LONE STAR POWER STATION DEMOLITION COST ESTIMATE

Estimator GA

Labor rate table 20TXDAL

Project No. A13351 021
Estimate Date 8/17/20
Reviewed By BA
Approved By BA
Estimate No. 24257F



Group	Description	Subcontract Cost Sc	rap Value	Material Cost	an Hours	Labor Cost	Equip Amount	Total Cost
10 00 00	WHOLE PLANT DEMOLITION	1			18,306	839 905	421,811	1,261 715
18 00 00	SCRAP VALUE		(832,913)					(832 913)
21 00 00	CIVIL WORK	178 368		190,476	997	54 087	38,225	461 156
	TOTAL DIRECT	178,368	(832,913)	190,476	19,304	893,991	460,036	889,958

AEP SWEPCO LONE STAR POWER STATION DEMOLITION COST ESTIMATE



Estimate Totals

Description	Amount	Totals	Hours
Labor	893 991		19,304
Material	190,476		
Subcontract	178,368		
Construction Equipment Process Equipment	460 036 (832,913)		
Process Equipment	889,958	889,958	
General Conditions			
Additional Labor Costs	50.000		
90-1 Labor Supervision 90-2 Show-up Time	53 600 17 900		
90-3 Cost Due To OT 5-10's	17 300		
90-4 Cost Due To OT 6-10's			
90-5 Per Diem			
Site Overheads	00 500		
91-1 Construction Management 91-2 Field Office Expenses	96,500 21,200		
91-3 Material&Quality Control	21,200		
91-4 Site Services			
91-5 Safety	19,100		
91-6 Temporary Facilities 91-7 Temporary Utilities	14,500		
91-8 Mobilization/Demob	15,300		
91-9 Legal Expenses/Claims	2,300		
Other Construction Indirects			
92-1 Small Tools & Consumables	9,700		
92-2 Scaffolding 92-3 General Liability Insur	9 700		
92-4 Constr Equip Mob/Demob	4 600		
92-5 Freight on Material	9 500		
92-6 Freight on Process Equip			
92-7 Sales Tax 92-8 Contractors G&A	126 300		
92-9 Contractors Profit	180,400		
	580,600	1,479,558	
Project Indirect Costs			
93-1 Engineering Services			
93-2 CM Support			
93-3 Start-Up/Commissioning 93-4 Start-Up/Spare Parts			
93-5 Excess Liability Insur			
93-6 Sales Tax On Indirects			
93-7 Owners Cost 93-8 EPC Fee	230,400		
	230,400	1 700,958	
Contingency			
94-1 Contingency on Const Eq	54,300		
94-3 Contingency on Material 94-4 Contingency on Labor	23 400 134 800		
94-5 Contingency on Subcontr	17 800		
94-6 Continuency on Process Ea	83 300		
94-7 Contingency on Indirect	23,000	2 037,558	
	330,000	2 031,330	
Escalation			
96-1 Escalation on Const Equip			
96-3 Escalation on Material 96-4 Escalation on Labor			
96-5 Escalation on Subcontract			
96-6 Escalation on Process Eop			
96-7 Escalation on Indirects			
		2,037,558	
98 Interest Dunng Constr			
		2 037,558	
Total		2,037,558	
10mi		2,007,000	



				Application of the							
Group	Phase	Description	Notes	Quantity	Cost	Scrap Value		Man Hours L	abor Cost E		Fotal Cost
10.00.00	40.04.04	WHOLE PLANT DEMOLITION	A Management X X				, , , , , , , , , , , , , , , , , , , ,				
	10 21 00	CIVIL WORK FENCING REMAINS IN PLACE		L	F						
		REMOVE RAILROAD TRACK RAIL, TIES SPREAD BALLAST		1,600 00 T			•	360	17,708	16,380	34,088
		PAVED SURFACES CIVIL WORK		1,067 00 8	SY	•	-	128 488	6,298 24,007	5,826 22,206	12,124 46,213
	10 22 00	CONCRETE BUILDING/EQUIPMENT FOUNDATION/PAD	DRAFT EQUIPMENT FOUNDATION (2FT BELOW GRADE)	200 00 0	CY CY	-	-	225	11,131	4 874	16 004
		BUILDING/EQUIPMENT FOUNDATION/PAD	MISC EQUIPMENT PADS AND SITE BLD FOUNDATIONS	200 00 0	Y	-	-	225	11,131	4,874	16,004
		BUILDING/EQUIPMENT FOUNDATION/PAD	TRANSFORMER FOUNDATION, FIRE WALLS, PIERS, CURBS, AND BASIN	515 00 0	Y	-	-	579	28,662	12,549	41,211
		BUILDING/EQUIPMENT FOUNDATION/PAD	TANK AND PUMP FOUNDATIONS, CONCRETE BERMS	106 00 0	Υ	•	•	119	5,899	2,583	8,482
		BUILDING/EQUIPMENT FOUNDATION/PAD	INTAKE STRUCTURE	200 00 0	Y			225	11,131	4,874	16 004
		BUILDING/EQUIPMENT FOUNDATION/PAD	DISCHARGE STRUCTURE	100 00 0	Y			113	5 565	2,437	8,002
		BUILDING/EQUIPMENT FOUNDATION/PAD	COMBUSTION TURBINE FOUNDATION, EQUIPMENT HAS BEEN REMOVED	1,335 00 (ΣΥ	-	•	1 502	74,298	32,531	106 828
		MAIN POWER BLOCK FOUNDATION		700 00 0	Y	-	•	591	29,227	12 797	42,024
		ELEVATED CONCRETE FLOOR / ROOF		721 00 0		-		432	21,365	9,355	30,720
		TURBINE PEDESTAL		775 00 0		-	•	1,395	69,011	30 216	99 226
		DISCHARGE CLOSURE	ALLOWANCE	60 00 0		•	•	45	2 226	975	3,201
		INTAKE CLOSURE CURBS	ALLOWANCE	60 00 C		•	•	45 1	2 226 59	975 26	3,201 85
		WALKWAYS		20 00 0				11	519	227	747
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT CONCRETE ROOF	AIR HEATER ROOM, MISC	2,000 00 8			-	30	1,425	941	2,366
		PRECAST CONCRETE CHANNEL & LIGHTWEIGHT CONCRETE ROOF	TURBINE ROOM, CONTROL HOUSEM MACHINE SHOP, WATER TREATMENT AREA	7,800 00 \$	SF.	-	•	117	5,558	3,669	9,227
		CONCRETE						5,654	279,433	123,900	403,332
	10 23 00	STEEL									
		STRUCTURAL, GIRT AND GALLERY STEEL		510 00 7	rn .		-	518	24,245	8,373	32,618
		STEEL						518	24,245	8,373	32,618
	10 24 00	ARCHITECTURAL									
		BUILDING	WAREHOUSES AND STOREROOMS	12,500 00 0		•	•	38	1,691	1,025	2,716
		BUILDING	PUMPHOUSE	15,000 00 0		•	•	45	2 030	1 229	3,259
		MASONRY WALLS		14,000 00 5	SF	•	•	112	5 051	3 060	8111
		ARCHITECTURAL						195	8,772	5,314	14,086
	10 25 00	CONCRETE CHIMNEY & STACK									
		STEEL STACK		30 00	IN		•	61	2,594	1,363	3,957
		CONCRETE CHIMNEY & STACK						61	2,594	1 363	3.957
	10 26 00	MISCELLANEOUS STRUCTURAL ITEM									
		ELEVATOR MISCELLANEOUS SMALL OBSTACLE REMOVAL FROM		1 00 E 1 00 L		-		90 1 000	3,843 42,700	2 020 22 440	5,863 65 140
		SITE MISCELLANEOUS STRUCTURAL ITEM						1,090	46,543	24,460	71,003
	10 31 00	MECHANICAL FQUIPMENT MAIN BOILER AND APPURTENANCES, INCL. ID. FD FANS		1,350 00 1	ΓN		•	2,734	127 912	58,858	186,770
		AND MOTORS STEAM TURBINE GENERATOR		350 00 1	rs.			709	30,264	15,904	46 168
		FLUES AND DUCTS INCL. BREACHING		100 00			:	709 270	30,264 12 633	15,904 5,813	46 168 18 446
		FEEDWATER SYSTEM DEAERATING EQUIPMENT		70 00 1				142	6,053	3,181	9 234
		TANKS AND SILOS	(1) 80 000 BARREL AND (1) 55,000	220 00 1		•		594	25,364	13,329	38,693
			BARREL LUB OIL TANK								
		MISCELLANEOUS SMALL TANKS MISCELLANEOUS FUEL OIL EQUIPMENT		38 00 1 100 00 1			•	103 270	4,381 11 529	2,302 6,059	6,683 17,588
					Page 4					***	



Group	Phase	, Description	Notes Notes	Quantity	Subcontract Sora	p Value - Materis	al Cost Man Hours	Labor Cost Ec	uip Amount	Total Cost
	10 31 00	MECHANICAL EQUIPMENT MISCELLANEOUS STORAGE TANKS AND PUMPS WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT		100 00 TN 100 00 TN	-		270 203	11,529 8,647	6,059 4,544	17,588 13,191
		TREATMENT EQUIPMENT MISCELLANEOUS EQUIPMENT TURBINE ROOM OH CRANE, 75/20 TON TURBINE ROOM GANTRY CRANE, 5 TON		120 00 TN 1 00 EA 1 00 EA		:	243 225 28	10,376 9 608 1 196	5,453 5 049 628	15,829 14,657 1 824
		CONDENSER CIRCULATING WATER SYSTEM EQUIPMENT CIRCULATING WATER SYSTEM EQUIPMENT	10 TN GANTRY CRANE	160 00 TN 100 00 TN 20 00 TN	-	· ·	324 203 41	13,835 8,647 1,729	7,271 4,544 909	21,105 13 191 2 638
	10 34 00	MECHANICAL EQUIPMENT HVAC					6,356	283,701	139 903	423 605
	10 34 00	MAIN BUILDING HVAC HVAC		1 00 LT	-	-	225 225	9,608	5,049 5 049	14 657 14 657
	10 35 00	PIPING PIPING, VALVES AND HANGERS CIRCULATING WATER SYSTEM EQUIPMENT PIPING AND	BOILER AND TURBINE PLANT	250 00 TN 1 00 LS	- -	:	506 480	21,617 20,496	11 360 10 771	32 977 31,267
		TUNNELS PIPING, VALVES AND HANGERS HYDRANTS	вор	94 00 TN 1 00 LS		:	190 113	8,128 5,534	4,271 5,119	12 399 10,653
	10 41 00	PIPING ELECTRICAL EQUIPMENT					1,289	55,775	31 522	87 296
	10 41 00	TRANSFORMERS LIGHT FIXTURE MISCELLANEOUS ELECTRICAL EQUIPMENT	MPT AND AUXILIARY TRANSFORMER GENERATOR BUS INCLUDED	57 00 TN 400 00 EA 85 00 TN	-	:	152 160 303	6,503 6 832 12,932	3,418 3 590 6 796	9 921 10 422 19,728
		OUTDOOR LIGHTING ELF CTRICAL EQUIPMENT		1 00 LT			225 840	11 068 37,335	10,238 24 042	21,305 61,377
	10 42 00	RACEWAY, CABLE TRAY, & CONDUIT CONDUIT CABLE TRAY		72 00 TN 72 00 TN		:	468 432	19,984 18,446	10,502 9 694	30,486 28,140
		RACEWAY CABLE TRAY, & CONDUIT					900	38,430	20 196	58,626
	10 43 00	CABLE COPPER WIRE / CABLE CABLE		69 00 TN			690 690	29,463 29,463	15 484 15,484	44,947 44,947
		WHOLE PLANT DEMOLITION					18,306	839,905	421,811	1,261,715
18.00.00	18 10 00	SCRAP VALUE CARBON STEEL CARBON STEEL CARBON STEEL CARBON STEEL CARBON STEEL	RAILROAD TRACK RAIL	-3,998 00 TN -59 00 TN	:	(663 668) (9,794) (673 462)	:		_	(663,668) (9,794) (673,462)
	18 30 00	COPPER SOLID COPPER #/! INSULATED COPPER WIRE 65% COPPER	ISO PHASE	-1 00 TN -69 00 TN	· 	(4 270) (155,181) (159,451)	÷ .			(4,270) (155,181) (159,451)
		SCRAP VALUE			(832,913)				(832,913)
21.00.00	21 17 00	CIVIL WORK EARTHWORK EXCAVATION FOUNDATION EXCAVATION, USING 1 CY BACKHOE	CONTAMINATED SOIL SAND	483000 CY			725	40,043	12,440	52,483
		MASS EXCAVATION EARTHWORK, EXCAVATION	BENEATH OIL TANK LEVEL BERMS AND DIKES	407 00 CY	-	-	16 741	838 40,862	1,539 13,979	2,378 54,861
	21 21 00	MASS FILL								



Group Phase	Description	Notes	Quantity	Subcontract Scrap	Value Mat	erial Cost Ma	n Hours L	abor Cost Equ	ip Amount.	rotal Cost
21 21 00	MASS FILL MASS FILL COMMON EARTH USING DUMP TRUCK, 10 MI	COVER DISTURBED AREAS OF SITE	7 326 00 CY	-	_	190 476	256	13 205	24 246	227 927
	ROUND TRIP MASS FILL	WITH 2FT OF SOIL			-	190,476	256	13 205	24 246	227,927
21 47 00	LANDSCAPING HYDRO SEEDING LANDSCAPING		300 AC	6,468 6,468					٠	6,468 6,468
21 52 00	WASTE DISPOSAL DISPOSAL AND TRANSPORTATION FEE DISPOSAL AND TRANSPORTATION FEE	BUILDING DEBRIS CONTAMINATED SOIL, SAND BENEATH OIL TANK	1,500 00 CY 4 830 00 CY	27,000 144 900	:					27 000 144 900
	WASTE DISPOSAL CIVIL WORK			171,900 178,368		190,476	997	E4 007	38,225	171,900 461,156
	CIVIL WORK			170,300		190,476	997	54,087	30,223	401,100



H.D. Mattison Plant Units 1-4 **CONCEPTUAL DEMOLITION COST ESTIMATE**

Prepared for: Southwestern Electric Power Company (Owner) and American Electric Power

> Project No. A13351.021 August 17, 2020 Revision 0

> > Sargent & Lundy'''

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Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
A	7/24/20	Comments	G. Amen	B. Andric		All
0	8/17/20	Use	G. Amen	B. Andric	A. Redd	Ali

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EXHIBI	T DESCRIPTION	
1	Conceptual Demolition Cost Estimate No. 24245F	

1.0 INTRODUCTION

The H.D. Mattison Plant Units 1 through 4 located near Tontitown, Arkansas in Washington County is owned and operated by Southwestern Electric Power Company (SWEPCO), a subsidiary of American Electric Power (AEP). The plant consists of four simple cycle GE 7EA combustion turbine generating units with a total rated generating capacity of 342 megawatts. Units 1 through 4 were placed in operation in 2007.

Sargent & Lundy (S&L) previously prepared a Conceptual Demolition Cost Estimate for H.D. Mattison Plant Units 1-4 in 2012 and 2016. AEP recently contracted S&L to update the previously prepared cost estimate to 2020 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for H.D. Mattison Plant Units 1-4 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

2.0 COST ESTIMATE SUMMARY

Conceptual Demolition Cost Estimate No 24245F was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

Table 2-1
Cost Estimate Code of Accounts

Account Number	Description	
10	Demolition Costs	
18	Scrap Value Costs	
21	Civil Work Costs	
90, 91, 92	General Conditions Costs	
93	Indirect Costs	
94	Contingency Costs	
96	Escalation Costs	

The results of the cost estimate are provided in Table 2-2 below:

Table 2-2
Cost Estimate Results Summary

Description	Total Cost
Demolition Direct Cost	\$ 2,925,101
Scrap Value	(\$ 638,204)
General Conditions Cost	\$ 1,014,800
Indirect Cost	\$ 394,000
Contingency Cost	\$ 497,200
Total Project Cost	\$ 4,192,897

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete H.D. Mattison Plant Units 1-4 generating facility and plant common services associated with the unit. Common facilities include:

- > Maintenance/Office/control Building
- ➤ Electrical Building
- > Miscellaneous Site Buildings
- > Raw Water Storage Tank
- > Demineralizer Tanks

The following are excluded from the scope of the conceptual demolition cost estimate:

- > Switchyard and Substation
- Asbestos Removal

The following items were included in the current cost estimate and were not included in the 2016 cost estimate:

Added new warehouse building, 60 ft x 40 ft.

Revisions to the plant facilities that would affect the current cost estimate was provided by plant personnel through correspondence.

4.0 COMMERCIAL BASIS

4.1 General Information

The Conceptual Demolition Cost Estimate prepared for the H.D. Mattison Plant is a conceptual estimate of the cost to dismantle H.D. Mattison Plant Units 1-4. Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs. (2) scrap value of metals, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (2020 levels). A one (1) year demolition schedule is anticipated. All units will be demolished at the same time.

4.2 Quantities/Material Cost

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

4.3 Construction Labor Wages

Craft labor rates (Craft Hourly Rate) for the cost estimate are based on the prevailing wages for Littlerock, Arkansas as published in "R.S. Means Labor Rates for the Construction Industry", 2020 Edition. These prevailing rates are representative of union or non-union rates, whichever is prevailing in the area. Costs have been added to cover social security, workmen's compensation, federal and state unemployment insurance. The resulting burdened craft rates were then used to develop typical crew rates applicable to the task being performed

4.3.1 Labor Work Schedule and Incentives

The estimate assumed a 5x8 work week. No other labor incentives are included.

4.3.2 General Conditions Costs

Allowances were included in the cost estimate as direct costs as noted for the following:

- ➤ Labor Supervision
- Construction Management
- > Field Office Expenses
- Safety
- Temporary Facilities
- > Mobilization / Demobilization
- ➤ Legal Expenses / Claims
- Small Tools & Consumables
- ➤ General Liability Insurance
- Construction Equipment Mobilization / Demobilization
- > Freight on Material
- > Contractor's General and Administrative Costs
- Contractor's Profit

4.4 Scrap Value

The value of scrap is based on "Scrap Metals Market Watch" as published in the July 2020 Edition of "American Recycler News" (www.americanrecycler.com) using Zone 3 (USA Southwest). The values obtained are delivered prices to the recycler. Transportation cost to the recycler is assumed @ 30 \$/ton resulting in the values below:

- > Carbon Steel Value @ 166 \$/ton
- > #1 Insulated Copper Wire 65% @ 2249 \$/ton
- > Stainless Steel @ 830 \$/ton

<u>Note:</u> 1 Ton = 2,000 Lbs

4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- Engineering, Procurement and Project Services: None included.
- Construction Management Support: None included.
- Owners Cost: Included as 10.0% of the total direct labor and material cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

4.6 Escalation

No allowance for escalation was included in the cost estimate.

4.7 Contingency

We believe the available information and inputs to the demolition cost estimate warrant a 15% contingency. However, we have applied a 10% contingency in the current demolition cost estimate because the Commission ordered the use of a 10% contingency in SWEPCO's 2016 rate case (Docket No. 46449). Allowances were included in the cost estimate as contingency as noted for the following:

- Scrap Value: Included as a 10.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 10.0% of the total material cost.
- ➤ Labor: Included as 10.0% of the total labor cost.
- > Indirect: Included as 10.0% of the total indirect cost.